Study on skills for the future in Indonesia

Final Report

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July 2019

Oxford Policy Management

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Acknowledgements

This report represents a collaborative effort made possible by the contributions of a wide range of stakeholders. Special thanks are extended to the adolescents and their parents, teachers and guardians who actively engaged in the interactive focus group discussions, and to the school principals for facilitating the discussion process. Sincere thanks are further extended to the organisations, institutions, communities and individuals that shared their views and opinions so openly and honestly throughout the discussions.

We would like to thank representatives of the Government of Indonesia who participated in this study. We are indebted to the Education and Religion Directorate; Human Development, Community, and Culture Deputy; and the Ministry of National Planning (Bappenas) for their continuous support to our study on skills for the future. This review would also not have been possible without the support of sub-national government institutions that facilitated the process of data collection and with connecting our research team to key respondents, such as the Education Offices in Jakarta, Semarang, and Sorong; the Manpower Offices in Jakarta, Semarang, and Sorong; and the Religious Affairs Offices in Jakarta, Semarang, and Sorong. We are particularly grateful to the UNICEF partners supporting the mobilisation and facilitation of access to local respondents: UNIMUDA in Sorong and Yayasan Setara in Semarang.

The authors acknowledge the valuable contributions of UNICEF Indonesia to this study. We would like to express our sincere thanks to Hiroyuki Hattori, Chief of Education; Chizuru Iwata, Adolescent Development Officer; Ticiana Garcia-Tapia, Youth and Adolescent Development Specialist; Yuanita Nagel, Youth and Adolescent Development Officer; Annisa Elok Budiyani, Adolescent Development Officer; Naning Pudji Julianingsih, Child Protection Specialist; Lukita Setiyarso, Partnership Officer; and Belly Lesmana, Education Officer, for supporting us over the course of this research. UNICEF Indonesia were also particularly helpful during the design and administration of the U-Report poll. Our sincere thanks are extended to this team for sharing their experience and diligently supporting this exercise. We are also grateful to the representatives of UNICEF Headquarters for taking the time to share their insights on UNICEF's upcoming Global Skills Framework.

Finally, we would also like to share our gratitude to our extended team members, Candra Kusuma, Nurun Najib and Herry Widjanarko for the hard work, sincerity, and commitment they put into the training and fieldwork.

Executive summary

Introduction

Oxford Policy Management (OPML) was contracted by the United Nations Children's Fund (UNICEF) Indonesia to research the skills needed for the future in Indonesia. The purpose of the study is to provide an analysis of the skills adolescents currently have, as well as the skills needed for the future (using 2030 as the timeframe of reference), focussing on the perspective of the adolescents themselves as well as the government and private sector. This analysis will inform actionable recommendations, particularly for UNICEF but also for government and private sector partners, to help equip adolescents with the skills they need to thrive across different learning pathways. These recommendations focus on UNICEF's added value in this area of work for the future.

Between September 2018 and April 2019, the OPML team carried out extensive primary research using qualitative methods, along with secondary data analysis and a review of the existing evidence and literature, to understand and analyse the current status and future of skills in Indonesia. This report presents the consolidated findings and recommendations from all activities conducted during the research period.

The report consists of six chapters. Chapters 1 and 2 introduce the assignment and provide the background and context for the study. Chapter 3 details our research methodology, including the research process, sampling and limitations. The core of the research was carried out in Jakarta, Sorong, and Semarang, and we have also analysed data collected through the use of a U-Report adolescent poll conducted nationally. Chapter 4 focuses on the skills adolescents currently have and explains how different actors define skills. This chapter then highlights the key skills adolescents currently have, the channels through which these skills are acquired and some of the bottlenecks and hindrances adolescents face in acquiring these skills. The chapter also presents the challenges that other actors (such as parents, teachers, government officials and employers) face in providing these skills to adolescents. Chapter 5 focuses on the theme of 'skills for the future' and presents perspectives of different actors on this theme. Chapter 6 summarises some of the key findings of the study and also reflects on the implications of the study's findings for the UNICEF Framework. The chapter concludes by making recommendations most relevant for UNICEF.

A focus on adolescents

The study uses the term 'adolescents' to refer to individuals aged 10 to 19 years old, as per UNICEF's guidelines. The focus on adolescents is a conscious choice, given the size and relevance of this group in low and middle income countries.

Adolescents require a combination of foundational, transferrable, and technical skills to help them transition effectively into adulthood (Nasir, 2018).

The perspective of adolescents themselves is often missing from conversations on skills. This study thus aims to use an adolescent-centric approach to highlight the kinds of skills required to ensure that young people can maximise their potential and remain adaptive in a rapidly changing world.

Conception of skills

Skills are acquired capabilities and they are multidimensional in nature. The skills development system is also not distinct or separate from the education system, so we should take a systemic approach to understand them as part of the same ecosystem.

The study uses UNICEF's upcoming Global Skills Framework to conceptualise the different kinds of skills that adolescents have. The Framework divides skills into three main categories: foundational skills, job-specific (technical) skills and transferable skills. When discussing skills for the future, respondents across regions highlighted a broad range of transferable skills as being important. Therefore, transferable skills form a core focus area of the study, which is also an important component of the UNICEF Skills Framework.

Research methodology

Since this research focuses on the experiences, perceptions and aspirations of adolescents along with their families, employers and government officials, we rely on qualitative research as the key chosen method for this study.

The qualitative research used three research instruments: key informant interviews (KIIs), focus group discussions (FGDs) and participatory mapping exercises. Adolescents, parents, teachers, head teachers, government officials and employers across three regions participated in an effort to understand the current status as well as the future of skills needs in Indonesia.

The research was conducted by Indonesian data collectors with support from OPML's Indonesia office. The qualitative data collection was carried out between November 2018 and January 2019. To obtain information from a wider cross-section of adolescents in Indonesia on the skills adolescents currently have and the skills they will need for the future, the research team worked in collaboration with the UNICEF Indonesia team to conduct a poll using the U-Report digital platform.

Key findings

This research study on skills for the future provides insights into two key areas.

1. First, it explores the skills being currently acquired by adolescents in Indonesia. In doing so, this aspect of the study explores the multidimensional nature of skills, the diverse channels through which skills are acquired and the factors that enable and hinder skills acquisition by exploring the perspectives of adolescents, parents, teachers, employers and government officials.

    - Skills are defined and understood by diverse actors in broad, multidimensional terms. Respondents defined skills as capabilities that will enhance an individual's ability to earn a livelihood, but also as capabilities that are applicable to an individual's personal and professional lives.

    - Across regions, adolescents in Indonesia are striving to learn a combination of skills both in school and outside school. These skill sets include foundational skills, job-specific skills, transferable skills, and digital skills. In areas such as Jakarta and Semarang, where there are diverse channels available to acquire a wide range of skills, adolescents provided examples of how they learn a broad range of skills (from

fashion design to coding) both in school and outside school. These skills are further honed through membership of clubs and societies and through participation in competitions as well as through enrolment in online training courses. In regions such as Sorong, with fewer opportunities to acquire new skills, there were examples of adolescents travelling long distances to acquire digital skills or take up employment opportunities at a young age, with the aim of acquiring employability skills and earning additional income.

- Formal institutions such as school or training institutions are the main channels through which adolescents acquire new skills. While community-based organisations and peer and family networks are important channels through which skills are acquired, it is evident that adolescents in Indonesia largely acquire skills through the school education system. Parents have high expectations regarding the ability of schools and the education system to nurture skills in youth. Teachers mention that, while the school can help teach foundational skills, transferable skills and attitudes and values need to be taught at home.

- Role models (parents, teachers, peers, or family members) play an important role as enablers across all three fieldwork sites. They steer and shape the aspirations of adolescents and motivated them to acquire new skills. Institutions such as the school and the home were also key enablers of skills acquisition. These institutions play a key role in instilling the desire to learn and exposing adolescents to new learning opportunities. In regions such as Semarang, the strong partnerships between government training institutions and employers are a key factor enabling adolescents to acquire skills for employment and find jobs. Targeted government policies, such as the inclusive education policies in Semarang for children with disabilities or Sorong's local government policies to provide skills training to local youth, are also key enablers making access to skills more inclusive. How can these enablers be strengthened even further? This is a key question for policymakers to consider.

- Financial constraints emerged as a key hindrance to skills acquisition according to parents, teachers, government officials and some adolescents. In addition, peer pressure, over reliance on social media and digital gadgets and bullying were also listed as key hindrances according to adolescents, parents and teachers. These hindrances particularly affect adolescents from vulnerable groups and exacerbate social exclusion. For example, discussions with out-of-school adolescents highlighted how substance abuse, combined with peer pressure and lack of family support, led children to drop out of formal education systems. Similarly, children with disabilities (and their parents) reported bullying as a key challenge they encountered in school. This undermined their self-confidence and was mentioned as a hindrance to learning and personal empowerment.

- Gender was an important theme that came up repeatedly during discussions on skills. An important insight from this study was that while, in principle, there was broad agreement that boys and girls should have similar skills and the same opportunities to acquire them, the dominant view was that expectations of males and females are different in practice. This idea came out sharply in group discussions with parents and teachers. For example, the idea that boys need to grow up to be financially responsible or the idea that higher education for girls is more a luxury than a necessity came up repeatedly in group discussions with parents across regions. Teachers also echoed this view. Differing gendered expectations, however, did not come up during group discussions with adolescents.

2. A second core focus area of this study was the theme of 'skills for the future'. How do different actors such as parents, teachers, government officials and employers view the

future? What kinds of skills do each of these actors believe adolescents will need to successfully navigate the future and maximise their potential?

Some of the key insights on this theme, from the perspectives of the diverse actors who participated in the study are highlighted below.

- Adolescents described the future in terms of new opportunities and possibilities. They were striving to perform well at school, excel in extracurricular activities and develop their interests. Adult respondents (parents, teachers and government officials) characterised the future in terms of both risks and opportunities. Some of the risks mentioned included financial shocks, health shocks and unemployment. Adult respondents emphasised that it was vital for adolescents to be equipped with a broad range of transferable skills to navigate these risks.

- Adolescents across the regions have high aspirations and are optimistic about the future. During the discussion, respondents specifically emphasised professional aspirations. A striking finding was that adolescents and their parents in Jakarta and Semarang mentioned entrepreneurship as a career path they aspired to. The term 'entrepreneurship' in Jakarta and Semarang was associated with glamour, success, wealth and hard work (according to adolescents). Parents in both regions took the initiative to help their children take online courses and acquire new skills (particularly digital and financial skills) to enable them to achieve their goal of becoming successful entrepreneurs. In contrast, in Sorong, entrepreneurship was not an active career choice but rather a fall-back option out of necessity. It was not perceived by parents, adolescents or teachers as pathway to wealth, but as a way to earn a basic living. Adolescents across all three regions also aspired to support their families and meet their family's expectations of them.

- Transferable skills emerged as a key area to develop for adolescents in the future, according to adolescents, parents, teachers, employers, recruitment agents and government officials. A wide range of transferable skills were mentioned by adolescents as important skills for the future, including IT skills, foreign language skills (particularly English language skills), creativity, confidence, perseverance, public speaking skills and social skills (*kemampuan bersosialisasi*). Interestingly, many adolescents also felt they had some of these skills already, but were keen to develop them even further. During the U-Report poll, adolescents mentioned creativity, cooperation and respect for diversity as the top three skills they would need for the future.

- An important point that came across at all three fieldwork sites is that adolescents can already acquire a range of important transferable skills. However, adolescents, parents and teachers agreed there was a need to enhance the quality of the skills being provided to ensure they are relevant to a rapidly changing world. For example, learning digital skills and foreign languages was repeatedly mentioned by adolescents in all three regions. Adolescents, parents and teachers believe that adolescents are currently acquiring these skills in some measure, but they emphasised an urgent need for training on transferable skills to be embedded into the current curriculum so that adolescents are equipped with a wide range of skills for the future.

- Adolescent boys believed that negotiation skills and decision-making skills are the top two transferable skills they lacked. Digital skills were mentioned third. Adolescent girls mentioned digital skills as the top skill they lacked. They listed negotiation skills and decision-making skills second. Other key skills boys and girls felt they lacked included self-confidence, the ability to take risks and the ability to speak in public.

- Adult respondents (particularly parents, teachers and government officials) referred to the increasing importance of "values" and "moral character" as key skills required for the future. They often used terms such as "*akhlaq"* and "*adab"* to describe these qualities. An important point these respondents made was that these skills, combined with strong foundational and technical skills, were what adolescents needed for the future. They explained that this combination would enable adolescents to make better choices and decisions and enable them to manage future challenges.

- While there was broad agreement between parents and teachers regarding what kinds of skills were valuable for the future, there seemed to be tensions between the two actors regarding their expectations of each other. Lack of credible information about future career opportunities and prospects was a challenge highlighted by parents and teachers. Lack of training in 21st Century Skills modules was another key challenge mentioned by parents. Parents put the onus of skills acquisition on schools and teachers. Teachers felt overburdened by their responsibilities and believed parents could be more proactive in instilling transferable skills and values at home. Parents felt their children were burdened with schoolwork, leaving little time to learn new skills. Teachers particularly emphasised that, while the school curriculum had been reformed to include 21st Century Skills, they were not trained to implement this curriculum.

- Government officials particularly emphasised the importance of developing transferable skills for adolescents. Some of the key skills government officials mentioned as being important for the future included digital skills, language skills, communication skills, respect for diversity, tolerance and the ability to adapt and adjust to changing circumstances. A key challenge mentioned by government officials was including these skills into the mainstream curriculum to ensure they are taught well and assessed appropriately.

- Employers and recruitment agents mentioned that the world of work was changing rapidly. As a result, adolescents need to be equipped with the skills to unlearn and relearn at every stage of their lives. Lifelong learning will characterise the workplaces of the future, according to employers, and the key skill adolescents will need is the ability to remain flexible, adaptive, and up to date with workplace requirements. For example, banks have switched to online banking, so knowledge of digital skills is key for employment in the banking sector. Similarly, marketing and sales increasingly takes place through online platforms, so knowledge of new technologies is essential. Employers specifically highlighted the importance of a range of transferable skills as key for the future, including digital skills, language skills, having the "right attitude", communication skills, teamwork and resilience or the "spirit not to give up".

In conclusion, the study emphasises two important points, which could guide future policy interventions in this area.

- First, the study highlights the point that adolescents in Indonesia feel they are already acquiring a range of new skills. What adolescents need for the future is not an entirely new set of skills, but rather, the ability to further hone existing skills. This combined with the ability to keep learning, unlearning and relearning will enable adolescents to be able to adapt to a rapidly changing world and realise their potential.

- Second, this study argues that to prepare adolescents for the future, it is not enough to address skills gaps alone. The complex aspiration gaps (the lack of understanding about the kinds of choices to make in the future) and information gaps (limited availability of credible information to guide choices about the future) that adolescents, their parents and teachers face, must also be acknowledged. Any intervention to

prepare adolescents for the future must simultaneously address skills gaps, aspiration gaps and information gaps to create an enabling environment for adolescents to effectively transition from adolescence to adulthood and to maximise their potential.

Key policy recommendations

Adolescence is a crucial stage for skills acquisition, but the focus of key institutions working on skills development, such as the International Labour Organization (ILO), the World Bank, non-governmental organisations (NGOs), the private sector, etc., has largely been on providing skills development for older youth. UNICEF, with its focus on adolescents from the most marginalised groups, will have an important role to play in addressing the skills gaps that adolescents possess and developing responsive, adolescent-centric solutions to overcome these challenges.

Some of the key recommendations for UNICEF include the following:

- Arrive at a consensus on the meaning of 'skills'. The term 'skills' was understood and interpreted by different actors in different ways. It is vital for UNICEF to clearly define what 'skills' are and use this definition consistently, across programmes.
- Help develop the capacity of adolescent girls and boys in building their entrepreneurship skills, including enabling adolescents to understand the opportunities and risks involved in setting up a business. A large number of adolescents mentioned that they were keen to become entrepreneurs, and these aspirations were also shared by parents and teachers. Nevertheless, there remains a major gap in understanding what an entrepreneur actually does and what skills they need to start and succeed as an entrepreneur**.**
- Involve adolescents in curriculum development, in social innovation and programme development to enable them to collectively find solutions to issues affecting them. This will enable them to develop their critical thinking and technical skills and, at the same time, help contribute to the development of their communities. Such opportunities could be opened to adolescents in formal education, non-formal schools and to adolescents who are out-of-school. These opportunities could also help adolescent girls and boys build wider, more diverse networks, which could help them realise their aspirations of becoming entrepreneurs, commercialise an innovation or acquire new skills for the future.
- Create an online resource for adolescents focusing on skills for the future which will provide accurate information about what kinds of skills can be developed and the credible institutions through which such skills can be obtained. Online or mobile phone training modules could be useful in teaching new skills (such as communication skills, creativity, social skills and digital skills) to adolescents and will also familiarise them with taking up online training. Exposure to online training from adolescence will also ensure that they are able to increasingly adapt to online training (which is now increasingly used by employers) at the workplace.
- Design training programmes for parents and teachers to help them support adolescents in managing digital and technological changes. UNICEF can help develop relevant teaching and learning tools for parents, teachers and students in an interactive and interesting format to ease their comprehension to this issue. A proper dissemination plan, including training or workshop for parents and teachers, needs to be developed carefully to ensure the effective implementation of these tools. UNICEF

can also promote these tools to be adopted by schools and *Pusat Kegiatan Belajar Masyarakat* (PKBMs) to be included in their daily teaching activities.

- Strengthen the system of providing skills and training for teachers to provide career counselling to adolescents to understand the wide variety of employment opportunities that are possible. This is particularly essential in remote locations such as Sorong. This could be done by strengthening capacity building for counselling teachers to enable them to play a key role in bridging aspiration gaps and information gaps. This can open-up access to information on possible career pathways and will enable adolescents to make informed choices about their future as well as understand what kinds of skills will be needed for the future.
    - Ensure that all future programming has an explicit inclusion component, including providing training programmes and mentorship opportunities to help OOSC re-enter formal education systems or acquire job-specific skills to help fulfil their aspirations. For instance, the PKBM has been seen by parents as a positive avenue for OOSC to re-enter formal education systems. Our study shows that most PKBMs are largely focused on school certification and academic subjects, despite the demand to supplement them with technical and job-specific skills. UNICEF could provide further support to selected PKBMs in identifying the skills needed in each area and supporting PKBMs to develop this programme.
    - Collaborate with the Government of Indonesia to create a competency framework for assessing 21st Century Skills and incorporating this assessment system into the mainstream school and technical and vocational education and training (TVET) curriculum. This will ensure that adolescents are assessed on a wide range of skills and competencies beyond just literacy and numeracy.
    - Support the government to improve the capacity of teachers to apply 21st Century sSkills into their teaching activities. Teachers acknowledge that 21st Century Skills (such as communication, critical thinking, collaboration, and creativity) have now been integrated as part of the revised curriculum (K-13), but there is limited guidance (if any) on how to deliver these skills so their application is very subjective. When adolescents were asked where they acquired transferable skills, they often referred to real-life situations such as playing sports, attending competitions or participating in extracurricular activities. UNICEF can help improve the training modules of 21st Century Skills and transferable skills within the teacher training programmes so that teachers are equipped with the pedagogy to teach these skills to adolescents. UNICEF could support the development of tools and materials that meet the standards and requirements set forth in the UNICEF Skills Framework (as well as other relevant frameworks), then leverage government partnerships to deliver this to scale.
    - Ensure that all skills development programmes include adolescents and other relevant stakeholders from the design process itself to ensure compatibility and relevance from the beginning. Tools such as the U-Report or digital and social media platforms could be leveraged to capture adolescent perspectives.
    - Design and implement training programmes for teachers to teach children with learning disabilities and special needs. This can be embedded through pre-service and in-service training provided through teacher training institutions.
    - Provide adolescents with access to information to make informed choices about some of the key aspects of their lives. This would be consistent with the ethos behind

the Global Skills Framework in focusing on complexity and comprehensiveness, even if it is time-consuming, resource-intensive and difficult to implement. Such an approach would focus not only on education but also on health and wellbeing, skills and employability and active citizenship.

- Leverage U-Report and other such tools to collect feedback from adolescents and incorporate these perspectives into policymaking. UNICEF's U-Report is a valuable resource for obtaining quick feedback from adolescents on specific policy interventions. These online tools could be leveraged to create adolescent-centric policy interventions.
- Ensure the timely dissemination of findings from this and other research. Given UNICEF's comparative advantage in leading research activities, there is a clear opportunity to leverage the findings from global as well as local research to inform policy design and implementation. Targeted, regular dissemination of these findings to key stakeholders in decision making roles should take place.

Given that this research did not focus explicitly on current government programming, the focus of the recommendations is also not explicitly on government action. Nonetheless, based on our findings, we propose these recommendations as potential areas for further action from the government, ideally with technical input and support from UNICEF.

- Introduce region-specific skills development strategies to address regional skills challenges. A key finding from this study is that location matters for skills acquisition. Jakarta and Semarang have vibrant industrial clusters and provide adolescents with the opportunity to learn a range of employability-oriented skills. A strong education system in these regions, combined with well-informed parents and teachers, puts adolescents in these regions at an advantage. Vocational training courses offered in these regions also align closely with regional priorities. Therefore, young people who complete training in these institutions can find employment in these regions. There is an urgent need to replicate such models in areas such as Sorong. Sorong's remote location combined with limited infrastructure and training resources provides fewer opportunities for adolescents to learn new skills. In addition, skills training institutions offer training in areas with limited employment potential. For example, a training institute in Sorong runs tailoring courses, but there are no garment manufacturing firms in Sorong to employ such workers. It would be more apt to introduce training in areas such as online marketing and sales (to sell local handicrafts), tourism and hospitality, oil and gas and food processing and fisheries, all of which are key income generating sectors in the region.

- Bridging the geographical/regional divide through online platforms. UNICEF can help bridge this geographical gap by providing funding opportunities for new training programmes in remote locations. In addition, exchange programmes can be launched in schools where students in locations like Sorong can travel to Jakarta or Semarang and be exposed to schools in these regions. UNICEF could connect adolescents across schools in Indonesia through online platforms or a social network to provide adolescents across regions to share their aspirations and challenges. This platform could also be leveraged as a tool to pilot new interventions.

- Introduce teacher training on 21st Century Skills. Teachers across the study regions expressed the need for more relevant training in order to teach 21st Century Skills to adolescents. This training must also include innovative pedagogical approaches that can enhance creativity and promote critical thinking and analytical skills. There is also a need

to introduce changes in examinations and assessment systems to shift away from rote-learning approaches and to test the critical thinking abilities of students.

- Create consensus around skills and support the development of a national policy for skills development. Skills development has been an urgent policy for the Government of Indonesia. However, both the understanding of skills and the skills ecosystem in the country is fragmented. As a result, there is no coherent policy on skills development and entrepreneurship. A national level policy focused on skills development and entrepreneurship that addresses the skills requirements of both adolescents and adults will help ensure that lifelong learning is prioritised. This policy could incorporate insights from UNICEF's upcoming Global Framework on Skills and highlight a range of key transferable skills that young Indonesians need to develop for the future.

- Develop training programmes for parent–teacher associations. Parents and teachers were some of the key enablers for skills acquisition in Indonesia. While there were similarities in their perspectives on skills for the future, there were also mismatches in expectations. The establishment of functioning parent–teacher associations (with training provided to members of these institutions) will enable both parents and teachers to work together to meet the skills requirements of adolescents. Given the central role these organisations play in the ability of children and adolescents to acquire and retain skills, the government should look to empower such associations to understand and provide effective support for young people to gain these skills.

- Integrate transferable skills into course curricula at every level of education, from primary level to university. Transferable skills are important in their own right as well as helping learn other skills for the future, so these must be a crucial part of any course curriculum. It is important to integrate some of the key transferable skills mentioned in this study (such as communication skills, language skills, creativity, negotiation skills, and decision-making skills) to ensure that they are taught to children and adolescents. When developing a curriculum for transferable skills, attention must also be given to the teaching pedagogy and the assessment of these skills.

- Introduce career counselling and mentorship support to adolescents, including for OOSC. This could be a component of the national policy for skills development and entrepreneurship, or a separate initiative. The aim of this intervention will be to reduce the information gap about future challenges, opportunities and risks among parents, teachers, and adolescents. Counselling and mentorship opportunities will not only help adolescents achieve their personal and professional aspirations but will also provide a channel for vulnerable adolescents who have been victims of peer pressure, bullying or drug abuse to seek support and find ways to realise their potential.

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List of abbreviations and glossary of terms

Adab	Manner; typically refers to religious and Eastern values
Akhlaq	Moral; typically related to positive attitudes
ADB	Asian Development Bank
Baper	Someone who gets easily emotional instead of being logical and thinking things through
Bappenas	Ministry of National Planning
BLK	*Balai Latihan Kerja.* State training provider under the Ministry of Manpower and Manpower Regional Office (at province and/or district/city level). Sometimes refers to *Balai Besar BLK, BBPLK, BLI*, and *BPSDM* (naming is based on the context of institution)
BOS	*Bantuan Operasional Sekolah*. School Operational Assistance; national government subsidy for free 12-year basic education
CEO	Chief executive officer
Daya Juang	Persistence; typically refers to a fighting spirit/not giving up easily
DKI Jakarta	*Daerah Khusus Ibukota* Jakarta (Special Region of the Capital City of Jakarta)
FGD	Focus group discussion
GERMAS	*Gerakan Masyarakat Hidup Sehat*; community movement for a healthy lifestyle
ILO	International Labour Organization
IQ	Intelligence quotient
Iman	Faith or belief in God
Jiwa Keterampilan	Entrepreneurial spirit
K-13	2013 Curriculum; the current education curriculum applied in schools nationally
Kejar Paket B	Equivalency education equal to lower secondary school level
Kejar Paket C	Equivalency education equal to upper secondary school level
Kemampuan Bersosialisasi	Social skills
Ketangguhan Mental	Persistence
Keterampilan Berwirausaha	Skills for entrepreneurship

Keterampilan Dalam Hidup	Life skills
KII	Key informant interview
MA	*Madrasah Aliyah*; Islamic senior high school or upper secondary school (Grades 10–12)
MoEC	Ministry of Education and Culture
MoM	Ministry of Manpower
MTS	*Madrasah Tsanawiyah*. Islamic junior high school or lower secondary school (Grades 7–9)
NGO	Non-governmental organisation
OECD	Organisation of Economic Cooperation and Development
OOSC	Out-of-school children
OPML	Oxford Policy Management
Pantang Menyerah	Persistence
Pendidikan Kewirausahaan	Entrepreneurship education
PHBS	*Perilaku Hidup Bersih dan Sehat*; healthy and clean behaviour
PKBI	Perkumpulan Keluarga Berencana Indonesia; Indonesian Family Planning Association
PKBM	Pusat Kegiatan Belajar Masyarakat; education institution formed by the community under the supervision of the district or city education office. Educational institution for non-formal education (equivalency education).
Putra Daerah	Native citizen from a particular region
Rajin	Diligence
Rp	*Rupiah* (Indonesian currency)
RPJMN	Rencana Pembangunan Jangka Menengah Nasional; National Medium-Term Development Plan
Sanggar Kegiatan Belajar	One-stop learning centre
SD	*Sekolah Dasar*; elementary school (Grades 1–6)
SMA	*Sekolah Menengah Atas*; senior high school or upper secondary school (Grades 10–12)
SMK	*Sekolah Menengah Kejuruan*; vocational school (Grades 10–12)

SMP	*Sekolah Menengah Pertama*; junior high school or lower secondary school (Grades 7–9)
Tawuran	Street fighting
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNICEF	United Nations Children's Fund

1 Introduction

1.1 Background

'Skills for the future' has emerged as a major theme dominating policy debates in recent years. Globalisation, new technologies, migration, changing labour markets, and new environmental and political challenges have changed the ways in which we learn, work, communicate and interact. These changes are altering the nature of economic and political institutions, social and cultural systems, production systems, educational institutions and workplaces (World Bank, 2019). The complexity of the present and future world means that young people must be equipped with the knowledge and skills needed to navigate unexpected challenges. Some key questions then emerge:

What kinds of skills will children and adolescents need to successfully navigate the transition from childhood to adulthood, and become healthy, empowered, productive, and active citizens of the world? What kinds of skills will enable adolescents to maximise their potential and enable them to cope with change?

This study examines these questions in the context of Indonesia—a rapidly growing middle income country, which is predicted to experience a 'demographic bonus' in the decade between 2030 and 2040.[1] During this period, a majority of Indonesia's population will be in the 15–64 age group (Bappenas, Badan Pusat Statistik, and UNFPA, 2013). This increase in labour supply could mean a higher savings rate, increased earning capacity and more women entering secondary and higher education; all of which could contribute to increased growth rates. To reap the potential of this demographic shift, the Government of Indonesia has undertaken a range of policy and programme interventions focused on human capital development (Ministry of Education and Culture and United Nations Children's Fund, 2017). These efforts have largely focused on reforming the school education system and vocational training system, which was initiated in Indonesia in 2003.

The analytical literature on skills development focuses on addressing the skills requirements of both youth and adolescents. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) recognises that 'youth' is a fluid category that is often defined in relation to education and employment, referring to "the period between the age at which an individual may leave compulsory education and the age at which he/she finds his/her first job". For statistical consistency, the United Nations uses the term 'youth' to refer to persons aged between 15 to 24 years of age (UNESCO, 2013).[2] This study uses the term 'youth' to refer specifically to individuals in the above age group.

The study uses the term 'adolescents' to refer to individuals aged between 10 to 19 years of age, as per UNICEF guidelines. This study aims to document the perspectives of adolescents in two age groups: those aged between 10 to 14 years of age, and those aged between 15 to 19 years of age.

The focus on adolescents is a conscious choice. UNICEF (2017) estimates the global population of adolescents at 1.7 billion, 90 per cent of whom live in low- and middle-income

[1] This term is used to refer to phenomenon when the number of people in the productive age group of 15–64 years of age will be greater than the number of people under the age of 15 or above the age of 64.
[2] See also http://www.unesco.org/new/en/social-and-human-sciences/themes/youth/youth-definition/.

countries. Enabling adolescents to realise their potential by investing in their education, skills and participation in society will contribute to a competitive labour force, sustained economic growth, improved governance, and a strong and vibrant civil society (UNICEF, 2017).

Globally, adolescents face several challenges. According to UNICEF (2017), over 61 million lower secondary and 140 million upper secondary school-aged boys and girls are currently out-of-school. One in nine adolescent girls are married before the age of 18 years of age, and 70 million girls worldwide report being victims of physical violence by the age of 15. Evidence also suggests that a disproportionate number of adolescent boys are victims of physical violence, homicide and road accidents. Therefore, the failure to invest in the wellbeing of adolescents leaves millions of people without the skills, foundational tools, values, and attitudes required to meaningfully transition into adult life.

Evidence from neuroscience and public health also suggests that adolescence is a defining phase of child development (UNICEF, 2017). Increased brain plasticity during this period renders the brain sensitive to both positive and negative influences. This also makes adolescence a crucial period for skills development, during which individuals can develop or catch up on core foundational skills or vocational skills and prepare themselves for work and adult life (UNICEF, 2017). This is also a period where the presence of positive role models, mentors and guidance can play an important role in enabling adolescents to develop self-confidence and self-esteem to maximise their potential.

A key finding from the literature is that adolescents require a combination of skills to help them transition effectively into adulthood. This includes foundational skills, such as literacy and numeracy, which can help them learn new skills and to become employable; transferable skills, which equip young people with the attitudes, values and motivation to make informed choices about various aspects of their lives and to become responsible citizens; and technical skills, which provide young people with technical competencies to perform specific employment-oriented tasks (World Bank, 2018).

A missing theme in the literature is the perspective of adolescents themselves, particularly in specific country contexts. What kinds of lives do adolescents aspire to? What is their vision for the future? What are their fears and concerns about adulthood? What kinds of skills do they think they will need to achieve their aspirations? What expectations do they inherit from their families, teachers and mentors? What kinds of expectations do their families have of them and how are they trying to meet them? The answers to these questions are important to understand how the requirements of adolescents can best be met.

This study aims to answer the above questions in the context of Indonesia, drawing on the perspective of adolescents themselves and triangulating this with the perspectives of employers and government officials. In doing so, the study also helps identify how the perspectives of adolescents can be brought into mainstream debates on skills development and the role that UNICEF can play in leading this change.

To our knowledge, this is one of the first studies, and perhaps the only qualitative research study, which explores the theme of ‘skills for the future’ in Indonesia. The objective of this study is to highlight the perspectives of key stakeholders on the kinds of skills required to ensure that young people can maximise their potential and remain adaptive to change in a rapidly changing world.

The findings from this study will be useful for policymakers to identify key areas of reform around education and skills development in Indonesia. The study is also an important step to understand how different institutions and actors are preparing for the skills for the future, and how UNICEF can add value to these efforts as a partner to government, multilateral/ bilateral organisations and donors to help young people in Indonesia realise their potential.

1.2 Defining skills

It is important to agree on a common definition of skills for the purpose of this study. We begin with the premise that skills are acquired capabilities and are multidimensional in nature. (Greene, 2013) defines skills as "personal qualities" with three broad features: they are "productive of value" (they enhance productivity); "expandable" (skills can be enhanced by training); and "socially determined" (access to skills training depends on a range of social factors). Greene refers to this as the PES conception of skills. This study uses the above characteristics as a starting point to define skills. Greene argues that the specific definition of skills varies depending on the disciplinary perspective from which it is studied. For example, in economics, skills are viewed as a key component of human capital and defined in instrumental terms as technical competencies which promote employability or productivity. Psychologists focus on skills as competencies and attitudes, often focusing on the processes by which skills are acquired by individuals. For sociologists, the focus is on the idea that skills are socially constructed and on how an individual's position in society and power relations shape the acquisition and use of skills. Therefore, a multidimensional view of skills considers all these different aspects of skills and emphasises the point that skills are not only instrumentally valuable, but also intrinsically important.

Going further, scholars like Greene (2013) consider genuine skills enhancement to be devoid of an instrumental preoccupation with employability for specific job roles, but to be geared towards social and economic mobility in changing contexts; ultimately engendering a more just, equal, and fair society. Major international bodies, notably the United Nations, have espoused these broader, more comprehensive, and *holistic* approaches to skills (UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training , 2018); (UNICEF, 2018). These approaches also point to the social embeddedness and contextual nature of skills, which directs analytical attention to social institutions, economic relations, and cultural factors in understanding the dynamics of skills development.

Goal 2 of the *UNICEF Strategic Plan 2018–21* is 'Every Child Learns'. Within this context, learning is defined as a process of change in knowledge, skills, or behaviour as a result of experiences in school and out of school (UNICEF, 2018). To achieve this goal, UNICEF's upcoming Global Framework on Skills has also taken a multidimensional perspective towards skills.[3] This Framework highlights four broad sets of skills which adolescents need to navigate successfully from childhood into adulthood: foundational skills, transferable skills, job-specific skills, or technical skills and digital skills.[4]

- **Foundational skills** such as literacy and numeracy are core skills and the basis for which new skill sets can be acquired. Foundational skills can be taught as early as

[3] https://youtheconomicopportunities.org/sites/default/files/uploads/resource/Roadmap per cent20on per cent20Skills_UNICEF_Final_Shareable.pdf.

[4] It is important to note that, during the research design phase, 'digital skills' was not considered a separate category of skills in UNICEF's upcoming Global Skills Framework. The UNICEF Framework was evolving, and the UNICEF team clarified that digital skills would be a separate category of skills as of April 2019.

pre-primary school and form an important component of early childhood education programmes. These skills can be taught in formal institutions, such as schools, or in informal settings, such as the home.

- **Transferable skills** are cross-cutting skills which are applicable across domains. The UNICEF Framework identifies four broad clusters of transferable skills: skills for learning, skills for employment and entrepreneurship, skills for personal empowerment, and skills for active citizenship. These four skill sets are not stand-alone but interact. The four sets of transferable skills are depicted below (*see Figure 1*).

Figure 1. Four clusters of transferable skills

Source: (UNICEF, 2018)

Together, these four clusters of transferable skills can help improve learning outcomes, motivate more children to stay in school and learn, reduce child marriage, and improve child health. In the long run, young people with these skills can access better employment opportunities, secure stable livelihoods, escape poverty traps, and become responsible citizens who can contribute positively to their communities (Nasir, 2018).

- **Digital skills** refer to skills pertaining to the use of digital technologies. UNICEF has recently added this set of skills as a separate component of the upcoming Global Framework on Skills to highlight the increasing importance of these skills. Digital skills are diverse and range from job-specific technical skills (such as coding or software programming) to using and managing technology safely and effectively.

- **Job-specific or technical skills** are skills required to perform a specific task in pursuit of a livelihood; for example, coding for a software programmer or welding for a welder.

These four sets of skills are interrelated (*see Figure 2*). According to UNICEF, foundational skills form the starting point for skills acquisition. Transferable skills add another layer complementing an individual's foundational skills. For example, literacy forms the basis for acquiring and strengthening communication skills, which are considered a transferable skill. Transferable skills are applicable in an individual's personal and professional lives; these skills are thus often also called 'life skills', 'socioemotional skills', or 'soft skills'. Technical and job-specific skills are another important dimension of skills that an individual possesses. These skills are narrower in scope and equip an individual with the competencies to perform a job role effectively.

Figure 2. Types of skills

Source: Communication from UNICEF, April 2019

It is important to note that UNICEF is advocating a lifelong approach to skills development that focuses on developing foundation and transferrable skills early on in life, then advocating that individuals constantly build new technical or job-specific skills to ensure they remain employable and have sustainable career pathways and learn to navigate risks across their lifespan.

This study on skills for the future will consider all four skill sets identified in UNICEF's upcoming Global Framework: foundational skills, transferable skills, digital skills, and job-specific skills. Importantly, this study aims to look within each of these categories and to unpack the different kinds of skill sets that young people in Indonesia believe they need (from their own perspective) to transition successfully from childhood to adulthood. The perspectives of adolescents will be triangulated with those of teachers, employers, parents,

and government officials to provide a holistic account of what kinds of skills adolescents will need to cope with the opportunities and challenges of the future.

The focus of this study is not merely on skills for employability; it is also on understanding the skill sets that adolescents will need to successfully navigate the future across the different domains of their lives. Transferable skills become particularly important in this context as these are cross-cutting skills which can be applied in an individual's personal, social, and professional life. The four clusters of transferable skills identified by UNICEF provide a useful framework to identify the different kinds of transferable skills that young people, parents, teachers, employers, and government officials identify as being important for the future. During FGDs with adolescents, parents, teachers, employers and government officials, we delved deeper into the specific skills mentioned in the UNICEF Framework and asked respondents what they thought were some of the key skills that adolescents have today and what they will need in the future.

This study specifically identifies the key channels through which different skills are acquired; the key enablers which facilitate the acquisition of these skill sets; and the hindrances which inhibit the acquisition of these skills.

Skills are acquired capabilities, and training can take place through formal, non-formal, or informal channels, at different stages in an individual's life. Formal institutions through which skills are imparted include basic, secondary, and tertiary education institutions, such as schools, polytechnics, and universities. The non-formal path aims to support skills learning outside formal education systems, mainly through training or course centres, provided by public and private institutions. Skills can also be learned through informal channels, such as within the family and community groups, and through digital or online platforms. Skills acquisition thus takes place through a variety of channels

The formal Indonesian education system does not only focus on developing academic skills. The current 2013 curriculum is designed to go beyond this, placing the student at the centre of learning and aiming to strengthen their foundational skills and develop transferable skills. School activities are also designed to support personal empowerment. For instance, extracurricular activities for students are meant to allow them to practice their hobbies and interests (for more details see the discussion in Chapter 2 on the 2013 Curriculum and Skills Development Strategy).

In the formal education system, an adolescent can attend a vocational high school and acquire technical skills. In higher grades, apprenticeship/internship programmes between schools and industries support skills matching for future employability.

Individuals who follow a non-formal pathway for skills acquisition can get their skills assessed and obtain a certificate. This certificate could be used to enrol in formal skills training programmes, or to secure a job. Individuals in Indonesia can also attend a non-formal skills training programme organised through private skills training providers. These training providers also have a prescribed assessment and certification system, which may fall outside the education system.

Skills can also be acquired through informal channels, including informal apprenticeships, where a learner can acquire a skill by working with a master craftsperson, an experienced peer, or a family member. Informal channels for skills acquisition are particularly useful for self-employment/entrepreneurship opportunities (including family businesses, farm work,

etc.) that are acquired through family or peer networks. On completion of such training, the individual may not always obtain a formal certification, but their skills may be recognised through mechanisms such as recognition of prior learning.

In addition, community learning centres such as PKBMs provide access to non-formal training and education. PKBMs in Indonesia offer a wide range of training programmes, including early childhood education, equivalency education, mental and spiritual education, skills education, vocational education, citizenship education, household education, entrepreneurship education, arts and culture education, hobby and talent education and literacy education. During data collection, the field team observed that PKBM mainly focused on equivalency education and that not all these programmes were being provided by the PKBMs we visited. Again, the nature of the programming depended on the resources and capabilities available to each PKBM.

Evidence from the literature suggests that, despite significant global investments in efforts to enhance the development of skills, a 'breadth of skills' for learning, empowerment, employability, and citizenship are not developed progressively and at scale for all learners, whether in or out of school.[5] Some of the key reasons for this (Nasir, 2018) are:

- A lack of holistic vision by governments and relevant stakeholders on the skills that are needed, resulting in a breadth of skills not being developed through programming or over the life course;
- A lack of systemic approach to skills development being taken by governments and relevant stakeholders, resulting in unsustainable or short-term interventions with limited impact; and
- A lack of coordination between governments and relevant stakeholders, resulting in missed complementarities and potentially conflicting approaches.

In addition to these systemic challenges, other factors may be country-specific or region-specific. Our conception of the skills landscape, then, is not to see the skills development system as distinct or separate from the education system, but to take a systemic approach to understand both as part of the same ecosystem. This must be understood in two ways. First, pursuing TVET should not be considered merely as an alternative to the general education system, but as complementary to it. The demands of the economic and industrial sectors are ever-changing, and the education system might not always be adaptive and agile enough to be able to respond to it effectively and immediately. Instead, TVET courses could be designed and adapted to be more responsive to the demands of potential employees and the needs of employers in the industry. At the same time, it is important to ensure that these job-specific skills are complemented with strong transferable skills and core skills to ensure that the skills young people acquire do not only address the short-term requirements of industry, but also support young people in achieving long-term personal and professional goals. Second, the design and development of the school system itself should also actively consider the need to develop both foundation skills and transferable skills for all students (World Bank, 2019). This does not necessarily have to be intended to allow students to get jobs immediately but should ensure that they are learning in a relevant, comprehensive manner. The pedagogy should not only be about learning 'facts' or acquiring 'academic knowledge'; it should also provide a basis for developing the kinds of skills they need now,

[5] See (Care, Anderson, & Kim, 2016) (accessed 11 November 2018).

as well as those they need for the future. Learning at school and development skills should not be considered as alternatives or as being parts of different systems. Instead, the purpose of learning, regardless of the modality, should be to prepare them both for the workforce and to lead more enriched, fulfilling lives.

Some of the key unanswered questions pertaining to adolescent skills requirements include the following.

- What kinds of lives do adolescents aspire to? How do they view the future?
- What are their fears and concerns about adulthood?
- What kinds of skills do they think they will need to achieve their aspirations?
- What are their expectations from their families, teachers, and mentors?
- What kinds of expectations do their families have of them, and how are they trying to meet them?

Gender, equity, and inclusion are important cross-cutting themes throughout all these questions. These factors could influence the extent to which different groups of young people access and acquire skills, and so form core analytical themes of this study. To clarify how UNICEF could meaningfully contribute to the debate on skills for the future and address the multidimensional skills requirements of adolescents, it is also important to find answers to the following questions.

- Do adolescents acquire skills in school and outside of school? What are the different channels through which they acquire these skills?
- What kinds of skills do adolescents think they need to become or remain employable and live meaningful lives?

These questions have been explored in the Indonesian context in this study.

This study also sought to document the perspective of the private sector on skills for the future. We define the private sector broadly to include institutions which run on the basis of income that they have generated on their own, without government support or financing. This category includes large manufacturing firms, start-ups and enterprises in the unorganised sector. We have specifically chosen to define the private sector broadly to ensure that we capture the diverse skills requirements of different kinds of private sector institutions in Indonesia, including large firms and medium and small enterprises.

Lastly, this study is about skills for the future, and it is important to clarify what we mean by the ‘future’. We follow the guideline specified in the Terms of Reference for the study and use the term ‘future’ to refer to the year 2030. This year is significant as it marks the deadline for achieving the Sustainable Development Goals.

1.3 Study purpose, scope and key research questions

The purpose of the study, as outlined in the Terms of Reference, is given below. The study aims to:

- Provide an analysis of the skills currently being acquired by adolescents and the skills needed for the future, according to the private sector, government, and adolescents themselves, in the context of current trends forecast for Indonesia and how Indonesia envisions itself in the global economic market in the future. The report should include an analysis of barriers and bottlenecks that adolescent boys and girls face in acquiring skills as well as the barriers in the way of the government providing these skills;

- Provide actionable recommendations to the Government of Indonesia and the private sector on how to equip adolescents with the skills they need to thrive (across different learning pathways). This will require coordination with NGOs and United Nations actors such as the Asian Development Bank and the World Bank; and

- Provide an analysis of UNICEF's added value in this area and a potential role for future work.

The underlying premise behind the study is the idea that Indonesia, as a growing middle income country, will not only need to equip its adult citizens with specific employability-oriented skill sets, but will also need to adopt a distinct approach to teaching a combination of skills to children and adolescents to ensure they are able to transition seamlessly into adult life and remain resilient to change.

A distinguishing feature of this study is that it aims to document the skills that adolescents possess, the ways in which they acquire them, the opportunities they perceive, and the challenges they face, all from the perspective of adolescents themselves. The Terms of Reference specify that the study will triangulate the perspective of youth with the perspectives of employers and the government to develop relevant and sustainable policy interventions that can enable young people in Indonesia to realise their potential.

The key components and research questions for the study are as follows: These are drawn from the Terms of Reference and are consistent with the range of questions that have emerged from the discussion above and the literature review.

i) Adolescent perspectives on skills for the future: The starting point for the study is to understand how adolescents perceive and describe the skills they possess within the categories outlined in UNICEF's upcoming Global Skills Framework. Key questions explored in this area include:

   a. What kinds of skills do adolescents think they need to navigate the future? Why do they consider these skills important?

   b. What skills do adolescents think they currently possess?

   c. How do adolescents acquire these skills? Are these skills acquired through formal or informal channels? What are these channels? Who are the key actors who influence adolescents to acquire these skills?

   d. What roles do schools play in imparting the four transferable skill sets mentioned in the UNICEF Framework?

   e. What kinds of jobs do adolescents aspire to?[6]

[6] This study aims to use FGDs to map the aspirations of adolescents, identify the kinds of jobs young people seek to obtain, and determine the steps they take to obtain them.

f. Does migration come up as an important theme when discussing youth aspirations?

g. Skills for learning: What kinds of skills do adolescents believe they require to help them acquire new skills? Do adolescents value the learning of new skills? What factors help them learn and what factors hinder them?

h. Skills for employability and entrepreneurship: How do adolescents obtain information regarding available jobs? Is there any support or guidance available to them when seeking or applying for jobs? What kinds of skills do adolescents believe they need to find jobs? What are the institutions/channels through which adolescents obtain employability skills?

i. Skills for personal empowerment: What kinds of skills do young people believe they need to make informed choices in their lives? What risks do adolescents believe they will face in their lives? How do they think they can cope with these risks?[7]

j. Skills for active citizenship: To what extent are adolescents aware of their role in the community as citizens? What skills do young people value (e.g. tolerance; respect for diversity; etc.)? What kinds of roles would they like to perform for their communities in the future? What skills do they need to perform these roles? and

k. Equity/gender and inclusion: Are there gender differences between the aspirations and skills gaps perceived by boys and girls? Are there differences between the perspectives of out-of-school adolescents and those in school?

ii) Employers' perspectives on skills and jobs for the future: This study will also conduct interviews with key employers in the private sector to understand the skills that employers value. The study aims to document the perspectives of different kinds of employers, including large manufacturing firms; service sector firms; start-ups; and enterprises in the unorganised sector. Interviews will also be conducted with human resource managers and recruitment agents to understand current and future skills gaps from an employer's perspective.

Key questions in this category will include:

a. What are the entry-level skills that employers look for when recruiting a new candidate?

b. What kinds of skills are most valuable to employers, and why?

c. What skills gaps do employers find between the skills they require and what new employees possess?

d. Is there a difference in the skill sets that employers value now compared to five years ago?

e. Will these skill sets continue to be important in the future? What new skills will be needed in the future?

f. What does a typical career progression pathway look like within the organisation?

g. Does the organisation provide on-the-job training or apprenticeship training? If so, how is this structured? and

h. Does the organisation provide opportunities for skills upgrading or retraining for workers? If so, how does this work? If not, what other opportunities are available for young people to acquire new skills?

[7] Questions in this category will also explore the degree to which adolescents have awareness of health issues, including HIV, AIDS, contraception, etc.

iii) Government perspectives on skills and jobs for the future: The third key focus area for the study focusses on how governments perceive the skills challenge overall. Key areas to be explored here will include understanding the policies and programmes in place to enhance the skills and employability of adolescents in Indonesia. Questions will also be asked of government representatives regarding their views on the major skills and employability challenges that young people in Indonesia face, highlighting some of the new policy interventions planned to overcome these challenges. Some key questions in this area will include:

   a. What are the top three policy challenges for the Government of Indonesia pertaining to youth/adolescents?
   b. What contributes the high unemployment rate in Indonesia?
   c. What is the government doing to address this challenge?
   d. Have there been successful initiatives on skills training for youth in Indonesia? If so, what contributed to their success?
   e. What are the drivers of youth unemployment?
   f. Will expanding access to skills training or equipping youth with new kinds of skills make a difference?
   g. What kinds of reform are taking place in the education sector?
   h. Are there any initiatives being undertaken by the government to promote transferable skills, among youth? If so, what are these initiatives? and
   i. Does the Government of Indonesia organise any training programmes to promote the employability of young people overseas?

In addition to these groups specified in the Terms of Reference, the study also includes the perspectives on skills for the future from two key actors - educators and parents - to understand what kinds of skills they value and what skills they believe will be essential for young people to possess to successfully navigate the future. During discussions with parents and adolescents, the study also sought to capture future aspirations to examine the kinds of skill sets identified as being important to realise specific personal or professional aspirations.

1.4 Deviations from the Terms of Reference

The Terms of Reference mention that this study aims to investigate the skills required for the future from the perspective of adolescents, seeking to triangulate this perspective with that of employers and government. Our initial research design for the study, which we developed at the proposal stage, took this into account.

However, an analysis of UNICEF's upcoming Global Framework on Skills combined with feedback from the UNICEF team during the inception phase of the project revealed that we need to triangulate the perspectives of adolescents with a wider number of actors due to the multidimensionality of the Skills Framework used in the study. For example, at the school level, it is vital not only to interview adolescents, but also to triangulate their perspectives with the views of both parents and teachers. Similarly, at the community level, it is important to speak to local community leaders, representatives of youth groups, and community-based organisations. At the industry level, it is critical to capture the perspectives of big industry on the cusp of technological change, small and medium enterprises, emerging start-ups, and enterprises in the unorganised sector.

We have sought to expand the scope of the study to include perspectives of these diverse actors within the limited timeframe of the study.

2 Skills for the future: the context in Indonesia

This section highlights the key findings from our review of secondary data on Indonesia's demography, the socioeconomic characteristics of the population and regional differences. It provides an overview of Indonesia's skills training ecosystem, highlighting the key actors and some of the key policy and programme interventions to enhance the skills of the country's young population.

This section is not intended to be an exhaustive review or diagnostic study of Indonesia's socioeconomic context. Rather, our objective is to highlight some of the key recurring themes in the literature, data sources, and policy interventions which will help frame this study.

2.1 The context in Indonesia

Indonesia is the largest archipelago in the world. Its territory covers an area of a million square kilometres and is made up of more than 17,000 islands. Indonesia is the fourth most populous country in the world with a population of 265 million, the highest concentration of the population inhabiting the island of Java (Bappenas, Badan Pusat Statistik, and UNFPA, 2013).

As a middle income country, Indonesia is experiencing rapid structural changes from a predominantly rural to an urban economy (World Bank, 2016). Cities in Indonesia are growing faster than in other Asian countries. While half of the country's population was already living in urban areas in 2010, this is expected to reach two thirds by 2035 (Jones & Mulyana, 2015). An analysis of the distribution of the youth population shows that 55.3 per cent of young people are concentrated in Java island, while the remaining are distributed across Sumatera island (22.5 per cent), Sulawesi island (7.4 per cent), and Kalimantan island (6.0 per cent) (Badan Pusat Statistik, 2017). Youth form about 8.7 per cent of the population in islands like Bali, Nusa Tenggara, Maluku, and Papua. Internal migration from Java to other islands is also a common trend among youth, who seek to migrate in search of new livelihoods or job opportunities (Badan Pusat Statistik, 2017).

Despite the increasing national economic growth, an imbalanced distribution of growth across the region and inequality remain concerns in Indonesia (McKinsey & Company, 2012). According to the ILO (2017), the highest average monthly earning was recorded in Jakarta (Rupiah (Rp) 3.9 million), while the lowest was in Lampung (Rp 1.64 million). Generally, wages are higher than the national average (Rp. 2.29 million) in provinces with major presence of industries and natural resources, or in Bali with a high service sector concentration.

Adolescents (aged 10–19 years old) comprise 18.3 per cent of Indonesia's population (BKKBN, 2019). The country is predicted to experience a 'demographic bonus' (where the number of people in the productive age group between 15 and 64 years old will be greater than the number of people under the age of 15 years old or above the age of 64 years old) in the decade between 2030 and 2040 (Bappenas, Badan Pusat Statistik, and UNFPA, 2013). This is considered a 'bonus' as it is assumed that a rise in the number of people in the productive age group will mean that more people will be looking for work, as there will be an increase in the labour supply. At the same time, this change in population structure implies a higher savings rate, an increased earning capacity, and the entry of more women into the

workforce. All these factors could fuel growth. There is also a risk that, if most young people within the youth bulge have low skills levels and are unable to find meaningful employment, they could become a burden on society. The increased focus of the Government of Indonesia on skills development and enhancing youth employability are aimed at ensuring that the youth in the country have the right sets of skills to contribute to a growing economy and that they remain productive and employable in the future (Ministry of Education and Culture and United Nations Children's Fund, 2017).

Indonesia has introduced 12 years of universal education, but net enrolment rates for primary, lower secondary, and upper secondary school for provinces in eastern Indonesia (especially West Papua and Papua) have been consistently below the national average for the last three years (Badan Pusat Statistik, 2017). There are also regional variations in young people's access to education (Adioetomo, Posselt, & Utomo, 2014). Youth in Papua are by far the least likely to have completed their primary school education (37 per cent), followed by Gorontalo (21 per cent) and West Sulawesi (14 per cent). Particularly in Papua, 30 per cent of the youth have never even attended primary school. The national average years of schooling in 2016 was 8.42. Between regions, the numbers vary, with Papua province being the lowest (6.48 years).

The literacy rate in Indonesia is estimated to be 99.67 per cent. The youth literacy rate for all provinces exceeds 90 per cent, except for Papua province, which has the lowest literacy rate (87.12 per cent) (BPS, 2018). The transition rate from primary to lower secondary school in Indonesia is at 81.50 per cent, while transition rates from lower to upper secondary school (both for general and vocational school) stand at 49.91 per cent and 53.24 per cent respectively (Ministry of Education and Culture, 2018). The number of repeaters and dropouts at all educational levels is higher for boys. Dropout rates (for boys and girls) are the highest at upper secondary school, especially in vocational schools; 65,233 students for boys and 39,278 students for girls (Ministry of Education and Culture, 2018). Therefore, managing the skills requirements of OOSC is also an urgent policy priority for Indonesia (Ministry of Education and Culture and United Nations Children's Fund, 2017).

Despite the high literacy rate, Indonesia continues to rank low in international standardised tests of student performance, even after taking socioeconomic conditions into account. In 2015, Indonesia ranked 44th out of 49 countries in the 2015 Third International Mathematics Science Study (TIMMS, 2015). However, there have been improvements in learning outcomes. For example, in the Program for International Student Assessment, which looks at how well 15-year-old students are prepared for life, science performance rose by 21 score points between 2012 and 2015. Despite recent increases in overall spending in education, Indonesia is still under-investing in secondary education, particularly junior secondary education. At the same time, operational budgets have been squeezed due to substantial increases in salary expenditure.

Indonesia has the second highest youth unemployment rate in the Asia–Pacific region (ILO, 2018). With a rapidly growing middle income economy, youth unemployment remains high at about 15 per cent. The youth unemployment rate for young women is at 15.62 per cent, slightly higher than the male youth unemployment rate of 15.50 per cent (World Bank, 2018c). Vocational upper secondary school graduates form the largest proportion of unemployed youth (Parry, Sudarto, & Yameogo, 2017). The youth-to-adult unemployment ratio is 6.9, which is relatively high. The ILO estimates that 23.2 per cent of adolescents are not actively studying, looking for work, or attending training (Parry, Sudarto, & Yameogo, 2017).

Sectors that contribute the most to youth employment in urban areas are wholesale and retail, followed by the manufacturing sector. Youth in rural areas work the most in agriculture, forestry and fishery. By gender, wholesale and retail jobs are the most sought after by young women (33.3 per cent), while young men work mostly in the agriculture/forestry/fishery sector (24.2 per cent). In total, the service sector is still a key employer of youth, especially for the population aged 19 and above. Young people aged between 16 and 18 years old work mostly in the agriculture sector. By education qualification, it seems that only around 2 per cent of university graduates are involved in the agriculture sector, as educated youth primarily aspire to work in the manufacturing or service sectors. The proportion of primary and secondary school graduates working in the agricultural sector is relatively high, ranging from 24 to 30 per cent. These statistics reinforce the structure of the economy and the availability of jobs between urban and rural areas (Badan Pusat Statistik, 2017).

Skills mismatch, limited awareness of job opportunities, and limited training on how to acquire jobs are some of the key factors that contribute to high youth unemployment (*ibid*.). According to the ILO, a skills mismatch typically occurs due to skills and labour shortages; gaps between the skills people have and the jobs that are available; over/under-education for specific job roles; and skills obsolescence. In Indonesia, there is a mismatch between education qualifications and job requirements. Between 2006 and 2016, there was an indication that job seekers and workers were undereducated in relation to the vacancies and current jobs available particularly in urban areas. Highlighting the digitalisation and automation trends, women were reported to be less prepared in studies related to science, technology, engineering, and mathematics. Overall, only 24 per cent of women were found to be pursuing degrees related to those subjects (ILO, 2017). The ILO also indicated that, by 2025, workers with inadequate qualifications would fill about 63 per cent of high-skilled jobs. In other words, there are skills gaps between qualifications, requirements, and employer's expectations (Allen & Kim, 2014). Another study highlights the reverse trend, with overqualified people working in low skilled jobs. For example, one study found that 51.5 per cent of workers in Indonesia's labour force are underqualified because their level of schooling does not meet the standard requirements of their occupation; 40 per cent are considered well-matched, and 8.5 per cent are considered overqualified for their occupations (Allen E. R., 2016, p. 12).

To address these challenges, the Government of Indonesia has put in place a wide range of policy and programme interventions, with a specific focus on human capital development. The Government of Indonesia, through the Ministry of Education and Culture (MoEC) and the Ministry of Industry, has undertaken a number of steps to improve the competency of vocational school (SMK) graduates through the *Revitalisasi SMK* initiative, with the main objective of 'linking and matching' between schools and industries. The government sees the importance of ensuring that skills of SMK graduates match the needs of the job market, and the SMK curriculum for several courses has been recently re-designed to align with the work culture and competencies needed by industries.

Meanwhile, to equip young people with vocational skills, the government has undertaken initiatives to improve the quality and relevance of training in public vocational education and training centres known as the *Balai Latihan Kerja* (BLK). These institutions provide free vocational training to every Indonesian. The BLK curriculum is now customised based on geographical context and addresses local industry requirements.

To provide out-of-school children and adolescents with a pathway to complete their education, the Government of Indonesia has established the *Pendidikan Kesetaraan* (Equivalency Education), through which they can enrol in non-formal education based on the

last level of formal schooling they have completed. The curriculum, learning and evaluation processes in these institutions follow national standards. Those who successfully complete their schooling through these institutions obtain a certificate equivalent to a school completion certificate in the formal education system, as specified by the 2003 Law of National Education System. Adolescents in Indonesia thus have formal and non-formal pathways through which they can acquire education and skills (Ministry of Education and Culture and United Nations Children's Fund, 2017).

Despite an increased policy focus on human capital development and skills development, there are significant skills gaps that need to be addressed urgently. For example, the Global Talent Competitiveness Index indicates that Indonesia ranks 93rd out of 118 countries in terms of expertise in vocational mid-level skills (Coordinating Ministry of Economic Afffairs, 2017). In terms of labour productivity indicators and the availability of technicians and professionals, Indonesia is 77th out of 119 (Normala, 2018). An Organisation of Economic Cooperation and Development (OECD) survey on adult skills in Jakarta in 2015 specifically measured adult proficiency in literacy and numeracy (OECD, 2016) and found that a significant proportion of adults in Jakarta lack these skills. This skills gap is even bigger for disadvantaged groups, with low levels of education attainment and low socioeconomic status.

Gropello *et al*. (2011) argue that the labour market values different sets of skills: academic skills that are associated with subject areas, such as mathematics, literacy, and language; generic or life skills, including thinking skills (e.g. problem solving or creative thinking); behavioural skills (e.g. communication or organisational skills and leadership); and technical skills, focused on technical competencies. Not surprisingly, the lack of technical and behavioural skills hinders the ability of adolescents to enter the labour market. To ensure that young people are able to transition effectively from education to employment, national policies have prioritised workplace-based training, internships, and apprenticeships as key interventions to link education and training to workplace requirements (Gropello, Kruse, & Tandon, 2011) (Coordinating Ministry of Economic Afffairs, 2017).

2.2 Education and skills development in Indonesia

This section provides an overview of the structure of the Indonesian education system and explores the linkages between vocational education, skills development, and formal education.

Skills development has been an urgent policy priority for Indonesia over the last few years and will continue to be prioritised by the national government. The Plenary Cabinet Meeting for Economic Equity held in January 2017 concluded that vocational education and training and entrepreneurship are priority areas that need urgent intervention under the leadership of the Coordinating Ministry of Economic Affairs. The Ministry of National Planning (Bappenas) has also emphasised the importance of strengthening workforce competitiveness through four key strategies: certification of competencies; partnership programmes; training programmes; and economic productivity in specific industry sectors (ACDP, 2017).

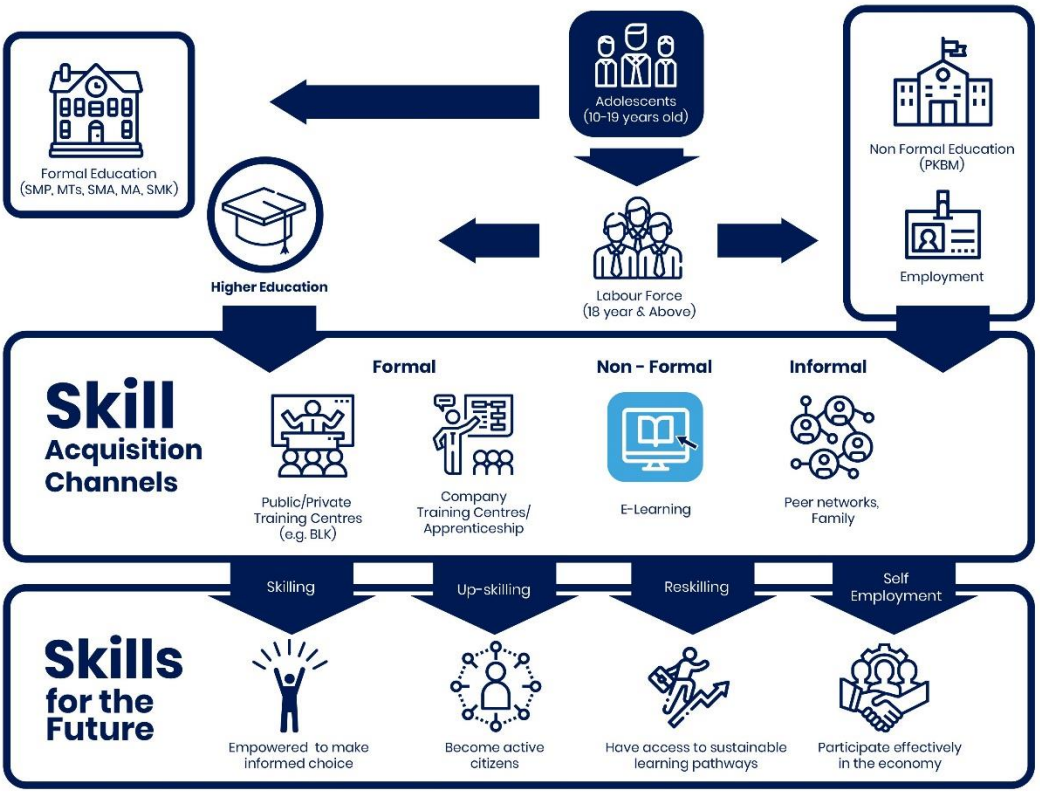
In Indonesia, school education, higher education, and vocational training are the responsibility of four different national ministries:

- MoEC oversees the school education system, including vocational high schools;

- The Ministry of Religious Affairs oversees the functioning of all religious schools;
- The Ministry of Research and Higher Education oversees and regulates five kinds of higher education institutions (academies, universities, institutes, colleges, and polytechnics); and
- The Ministry of Manpower (MoM) regulates vocational training centres that fall outside the formal education system.

The following illustrations show different platforms providing skills-building opportunities in Indonesia.

Figure 3. Skills acquisition channels in Indonesia



Source: adapted from (Ministry of Manpower, 2018)

Every child in Indonesia is guaranteed 12 years of free, universal education under Indonesia's National Education System and National Development Plan (Bappenas, 2015a).[8] In 2005, the government launched a school operational assistance program called BOS (*Bantuan Operasional Sekolah*) for students from primary to upper secondary school level. This programme aims to keep children in school by making education free so that all children can complete 12 years of universal education. Despite these programmes, researchers found that enrolment rates in some Indonesian provinces remains low, especially at upper secondary school level.

The Indonesian TVET system is governed by the 2003 National Education Law (Law No. 20/2003) and the 2003 Manpower Law (Law No. 13/2003). The education system in Indonesia consists of the formal vocational education system and the national training

[8] While schooling is technically free in Indonesia, there is evidence to indicate that there are fees associated with attending school in practice.

system for work. Formal vocational education is offered in SMK. At higher levels, students can continue to pursue formal vocational education in academies and polytechnics. Enhancing the training quality in SMKs has been an important policy priority for the Government of Indonesia. Rp700 million, or US$54,000, has been earmarked for every SMK to help upgrade the institute. From 2015 onwards, graduates from SMKs are awarded professional certification on successful completion of their courses to acknowledge their expertise in their field. These certificates are internationally recognised in other ASEAN countries, giving young people the opportunity to work overseas if they choose to do so.[9]

In parallel to the formal vocational education system, Indonesia also has a non-formal vocational education system offering employability training through vocational training providers known as BLK. This pathway allows young people who are unable to pursue higher education to pursue vocational courses and prepares them for jobs in local industries. UNESCO has identified 47 Indonesian vocational education programmes offered by these institutions in areas such as technology and engineering, health, arts and crafts, tourism, information and communication technologies, agribusiness and agrotechnology, and business management (UNESCO, 2013). Most recently, a new kind of vocational institute known as 'community academies' have been established as a bridging school to facilitate the transition from senior high school into polytechnics. These institutions admit people of any age, providing additional pathways for adults who have dropped out of school to acquire new skills. All these institutions focus on facilitating transitions from education to employment.

Employers identified the lack of English language skills and computer literacy as key factors inhibiting youth employability (Bappenas, 2015). The ASEAN employer survey on skills and competitiveness conducted by ILO in 2013 highlights the fact that there is a significant mismatch between the skills that young people possess and the requirements of employers (ILO, 2014). LaRocque adds that the existing curricula in vocational training institutes may also not be up-to-date with industry requirements lagging behind in the areas of technology and innovation (LaRocque, 2015). In relation to the Industrial Revolution 4.0, complex problem solving along with critical thinking and creativity will become the top three skills workers will need (Gray, 2016).

Education initiatives are focused on implementing an active learning methodology. Significant education reform in Indonesia took place in 1999, marked by the issuance of the 2003 National Education System Law. This saw the introduction of the school-based management concept by which schools were given more autonomy in school management, including in implementing active learning approaches, developing their own curriculum and managing teachers. Since 1947, the Indonesian government has created and implemented 10 rounds of curriculum reform. The most recent wave of educational reform took place in 2013 with the introduction of Indonesia's new 2013 curriculum (Ministry of Education and Culture and United Nations Children's Fund, 2017).

The previous curriculum, which focused on measuring learning outcomes, providing limited opportunities for young people to acquire the skills required to enable them to reach their potential. The classical teaching method focused on strengthening learning outcomes through memorising information. As an example, a USAID programme on teacher and student reform (DBE and PRIORITAS) used varied learning approaches such as group work or discussion, student–teacher interaction and feedback and problem solving techniques as teaching tools. This approach resulted in higher student scores in literacy (reading), mathematics and science, as measured by the project's student assessments. Active learning has also enabled students to gain more soft skills and demonstrate positive learning

[9]www.gbgindonesia.com/en/education/article/2016/vocational_education_in_indonesia_crucial_to_compete_in_the_asean_11489.php.

behaviours such as self-confidence, thinking skills and problem solving (Management System Information (MSI), 2017); (RTI International , 2017).

The new 2013 curriculum lays the foundation for structural change in the education system in Indonesia. It aims to improve three key domains: attitudes, skills, and knowledge. Students are encouraged to implement collaborative learning methods by observing, questioning, experimenting, associating and networking. This enables them to obtain a wide range of competencies such as technical skills based on their aptitudes/interest, communication skills, critical thinking skills and attitudinal skills such as responsibility, tolerance, and moral values. In other words, transferable skills have been integrated into the school curriculum through student-centred learning approaches (Ministry of Education and Culture, 2014).

What impact has introducing the K-13 curriculum had? Sutjipto (2014) assessed the impact of the 2013 curriculum on the performance of junior high school students in 44 Indonesian cities using a qualitative approach. The results revealed a positive impact on student performance, most importantly in terms of creativity, innovation, problem solving, and on inculcating spiritual and social attitudes (i.e., respecting diversity and tolerance). However, an assessment in some Indonesian provinces by an OECD/Asian Development Bank (ADB) team after the launch of the new curriculum in 2013 indicated that teachers needed more training on interactive teaching methods to implement the new curriculum in the local context to further improve student learning outcomes (OECD/ADB, 2015).

Schools also encourage good practices on health and wellbeing through initiatives such as *Perilaku Hidup Bersih dan Sehat* (PHBS) (Healthy and Clean Behaviour) and *Gerakan Masyarakat Hidup Sehat* (GERMAS; Community Movement on Healthy Lifestyle). Some schools even collaborate with the Perkumpulan Keluarga Berencana Indonesia (PKBI; Indonesian Family Planning Association) to deliver reproductive education. These interventions are aimed to ensure that adolescents in Indonesia are not only ready for work, but also ready to transition into successful adults and good citizens.

There are also a number of new initiatives being introduced to provide entrepreneurship skills to adolescents and youth. Examples of such interventions include the World Bank's *Life Skills Education for Employment and Entrepreneurship*, Plan International's *Youth Economic Empowerment*, and the ILO's *Education and Skills Training for Youth Employment in Indonesia*, which are addressing youth unemployment issues by providing high-quality non-formal entrepreneurial/self-employment training[10]. These target disadvantaged groups including children and women and youth in disadvantaged regions such as Papua, Maluku, and Nusa Tenggara. Most of these interventions focus on developing strong multi-stakeholder partnerships, with a focus on scaling up successful interventions; ensuring quality and relevance of skills training programmes and ensuring strong transitions from training to work. There is limited evidence on the extent to which online platforms are used to scale up such interventions, while stakeholders in NGOs mentioned that there is potential in leveraging digital technologies to scale up access to training and provide mentorship opportunities to youth.

Developing skills for active citizenship (such as values for diversity, empathy, and participation) are also important components of the new 2013 curriculum. In addition, the Government of Indonesia continuously promotes skills for active citizenship through the National Plan on Youth 2016–19. This national plan was developed to complement the

[10] For further information on these programmes see: World Bank: http://documents.worldbank.org/curated/en/227681468263055625/Indonesia-Third-Life-Skills-Education-for-Employment-and-Entrepreneurship-LSE3-Project-indigenous-peoples-planning-framework-IPPF; Plan International https://plan-international.org/eu/case-study-indonesia-youth-economic-empowerment and ILO: https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-jakarta/documents/projectdocumentation/wcms_153162.pdf

Rencana Pembangunan Jangka Menengah Nasional (RPJMN) 2015–19, with youth development as a critical element in the national development. In this national plan, policy strategies are directed to improve citizenship awareness and skills through nationalism, tolerance, collaboration, and youth participation in the community. The Ministry of Youth and Sports continue to foster youth development through some key activities, such as improving entrepreneurship skills, strengthening youth organisation, and facilitating youth exchanges, within the country as well as internationally. For this inter-ministerial strategy to work, some coordination challenges remain. The Ministry of Youth and Sports continues to lead the discussion on youth development and coordinate with the other ministries and NGOs.

2.3 The future of work: challenges and opportunities in Indonesia

The theme of 'future of work' has dominated policy debates in recent years. Recent studies have argued that technological change (including digitisation, automation, robotics, and 3D printing) will transform production, distribution and consumption patterns and are affecting the entire value chain in the manufacturing sector. The rise of aggregator platforms (such as Uber, Ola, and Gojek), have transformed the nature of service sector employment. The boundary between an entrepreneur and a worker has reduced. Digital skills which were once considered technical skills or transferable skills have now become core foundational skills, essential across job roles (World Bank, 2018). In the forthcoming UNICEF Global Framework on Skills, UNICEF is considering putting digital skills as a separate category of skills (such as foundational skills, transferable skills, and technical skills) to ensure that adolescents are equipped with this vital skillset for the future (personal communication, UNICEF Headquarters).

Studies suggest that technological advancement can have both positive and negative impact on employment (Frey & Osborne, 2017) (Tassey, 2014). Technology can stimulate innovation and growth. While some jobs could become redundant, new kinds of job roles could also emerge. In some cases, technology can also augment human labour as it can increase productivity and fulfil consumer demands for new products and services where it could eventually create new job opportunities. A 2018 World Economic Forum report on the future of jobs mentions that over 50 per cent of employers sampled for the global study in the manufacturing and services sector said that new technologies will result in job losses and redundancies. The report estimates that up to 30 per cent of current jobs in the manufacturing sector could become redundant in the future. However, the study has also shown that changes in technology will also result in the creation of new kinds of jobs with new skill requirements (World Economic Forum, 2018). The study concludes that critical thinking, analytical skills, problem solving skills, and the ability to work with technology and learn new technologies are some of the key skills that will be required for the future.

These changes are evident in Indonesia which has seen the emergence of a vibrant start-up ecosystem over the last decade. In 2016, the total disclosed funding of start-ups in Indonesia was estimated to have reached US$1.7 billion (McKinsey & Company, 2016). Financial technology (fintech), e-commerce, 'software as a service' (Saas) and an on-demand or service marketplace are some of the key areas of focus for high technology start-ups in Indonesia (The Jakarta Post, 2017). Online platforms are creating more economic opportunities through the digital marketplace as they have brought buyers and sellers, as well as potential workers and employers, closer (Tan & Tang, 2016). In 2017, the Indonesian e-commerce industry is forecasted to be valued at US$9.3 billion (The Jakarta Post, 2017). It

is estimated that digitisation will carry the economic growth in Indonesia further up, adding approximately US $150 billion annually to the economy (McKinsey & Company, 2016).

Indonesia faces enormous skills shortages, which act as a hindrance to leveraging these opportunities. The National Labour Force Survey reports that, in 2012, there was a shortage of administrative and technical workers (e.g. operators, technicians, labourers) and skilled labour (e.g. accountant, managers). The agriculture, transportation, and communication sectors also experienced shortages of skilled labour (APEC, 2014). Despite the surplus of labour, there were also skills gaps within the workforce, with workers often not having the basic skills required to meet industry standards.

Different public policy interventions could be pursued in Indonesia to leverage the opportunities that technological change could bring. Some ideas suggested in the literature include focusing on skills upgrading and reskilling of workers (Parry, Sudarto, & Yameogo, 2017) (ADB, 2018) to enable young people to keep up with changing skills requirements; improving learning outcomes (Parry, Sudarto, & Yameogo, 2017); and ensuring that training is aligned with industry standards (ADB, 2018) (World Bank, 2011).

The diversity and stark regional differences in Indonesia will mean that some sectors in the country will be more affected by these technological changes than others. Regions like Semarang, for example, are seeing a rapidly changing production system in the manufacturing sector and the emergence of a vibrant start-up ecosystem. Other parts of Indonesia, such as Sorong in Papua, have been relatively untouched by these changes. Indonesia needs to build strong institutions, policies, and programmes to cater to these diverse challenges. A recent assessment by USAID in West Java and South Sulawesi provinces (targeted due their strategic location and as a home for labour-intensive and fast-growing sectors: manufactures, agriculture, IT, and transportation) found that employers are willing to invest in pre- and post-employment training for young workers. These employers required a combination of technical skills and soft skills, including initiative, time management, and leadership (USAID, 2015).

An in-depth study on workers in the agriculture sector was conducted by AKATIGA (an NGO) in West Java, Central Java, and South Sulawesi (which is characterised by the predominance of rice farming). They interviewed young people aged between 13 to 30 years old from various backgrounds who were engaged as landowners and tenant farmers in the agricultural sector. These interviews demonstrated that agriculture was no longer an aspirational career path for youth, who sought to continue further studies or seek service sector employment (AKATIGA & White, 2015).

Based on this evidence, it is highly likely that different strategies need to be applied in different contexts to reduce skills gaps and align the aspirations of young people with the aspirations of the workplace.

Decent work is not the only challenge young people will face in the future. The fast-changing world environment means that young people need to be equipped with skills to navigate unexpected challenges ahead. Globalization, new technologies, changing labour markets, transnational environmental and political challenges will require new skills and knowledge for work, citizenship and life in the twenty-first century.”

3 Methodology

Since this research focuses on the experiences, perceptions, and aspirations of young people and their families, employers and government officials, we rely on qualitative research as the key chosen method for this study. Qualitative research provides an in-depth understanding of the social world by highlighting people's social and material circumstances, experiences, perspectives, and histories. It offers nuanced first-person accounts for people's perspectives and experiences without claiming that these accounts are representative of other similar communities' experiences. This research triangulates findings by collecting data on multiple perspectives, assessing the wider literature and conducting secondary data analysis to provide a fuller picture and understanding of the subjects under study.

This chapter provides a quick summary of our selection of fieldwork sites, sampling strategy for respondents, ethical considerations, guidance and training for fieldwork, the fieldwork plan, data management, analysis, and quality assurance. To support this section, a detailed research tool is available (*see Annex A*), the list of sampling is available (*see Annex B*) and a more detailed version of this methodology section is available (*see Annex C).*

3.1 Research process

A major methodological challenge in qualitative-led research is the definition and achievement of 'rigour'. Qualitative research is sometimes accused of being open to research bias or anecdotal impression, as well being impossible to reproduce and difficult to generalise (Mays & Pope, 1995). Our research addresses such concerns by adhering to a number of key considerations, including:

- A clear sampling strategy that explains the justification for our identification of research sites, key informants, and individuals for our interviews and FGDs;
- A well-developed research framework underpinned by appropriate methods and tools, including structured or semi-structured interview guidelines;
- A write-up of all interview notes and an analysis of findings;
- Triangulation of findings against different sources;
- Daily debriefs during the fieldwork to discuss emerging findings and ensure adaptability throughout the research; and
- Assessment of findings from different researchers throughout the research process, to recognise, reduce, and/or acknowledge individual researcher bias through a reflexive process.

We have primarily ensured that our fieldwork is rigorous and unbiased through the systematic selection and extensive training of local researchers. Ensuring rigour in this study fundamentally relies on the contributions of each data collector in the field. We have addressed the potential limitations of the research through training, team checks, record keeping activities, triangulation, and fieldwork analysis. All team members had to keep written records of all their activities, including interview notes, detailed transcripts and debriefing notes which were then used during the analysis stage. The findings from the fieldwork were also triangulated against different existing data sources to minimise researcher bias and establish the validity of the findings.

The following sections outline the research process followed in each research site.

3.2 Selection of fieldwork sites

This research was carried out through purposive sampling, which allowed us to generate robust, in-depth evidence for a comprehensive understanding of the skills young people in Indonesia will need for the future. In terms of the criteria for selection, we considered geographic, economic, demographic, and sociocultural variation to cover a wide range of perspectives and circumstances.

Based on a detailed assessment of a number of factors, (discussed in greater detail in Annex C), we selected the following field sites for the research: East Jakarta, Sorong, and Semarang. These sites were selected after extensive consultations with UNICEF colleagues in Jakarta and field offices. Table 1 summarises some of the key criterial for selecting the three fieldwork sites.

Table 1. Key criteria for selecting fieldwork sites

Region	Key criteria
East Jakarta, *Daerah Khusus Ibu Kota* Jakarta (DKI Jakarta)	East Jakarta is the most populous of the five cities within Jakarta and is characterised by several industrial sectors. Overall, young people are most likely to be economically active and to continue with education in this region. However, as it has experienced the fastest-growing multicultural environment and technological changes. The region also has many disadvantages, such as a high rate of youth unemployment.
Semarang, Central Java	As the home to many big industries and for manufacturing, we can learn from the employers located here about the future skills needed in labour-intensive sectors, particularly sectors undergoing changes as the result of new technologies. It may be possible to obtain information on the broad spectrum of skills required in the private sector (ranging from large enterprises to small and medium enterprises and start-ups) and how the labour market will be affected by Industry 4.0.
Sorong, West Papua	Eastern Indonesia is considered to have a lower education attainment and a higher long-term unemployment rate. Key sectors include mining/quarrying and the fishery sector: Insights from employers in these sectors will be beneficial for this research. This region has also seen an influx of migrants from Java leading to challenges in social cohesion between the migrants and the indigenous Papuans. This would also be an important site for examining issues relating to inclusion.

Further details on each of the fieldwork sites, including key socioeconomic indicators, are mentioned in the following paragraphs.

Jakarta is a vibrant urban centre with a diverse economic base. Considering the wide area covered by Jakarta, it became clear during the scoping exercise that this area would be too

broad to cover effectively. Given the focus of qualitative research on depth, we decided in consultation with UNICEF to narrow down the core research site to East Jakarta, at the school and community levels. Nonetheless, the research team still considered wider Jakarta when engaging with employers and the private sector, especially as it is a relevant hub for employment opportunities. Jakarta has been a key research site for this project, where we conducted interviews with government officials, representatives of national and international organisations and employers. Interviews and discussions with national level stakeholders were conducted in Jakarta city. The province of Jakarta has been designated as a 'special region' and is prefixed with the abbreviation DKI, which stands for *Daerah Khusus Ibukota* Jakarta (Special Region of the Capital City of Jakarta).

East Jakarta was selected as the site for fieldwork at the school and community level. This city is the most populous city in DKI Jakarta province. East Jakarta has a growth rate of 0.4 per cent and has an unemployment rate of 9.1 per cent (the highest in Jakarta province) (BPS Jakarta Timur, 2018). Adolescents comprise 14 per cent of the population (BPS Provinsi DKI Jakarta, 2018). Literacy rates in East Jakarta are high, at 99.84 per cent for males and 99.54 per cent for females. The city has seen an influx of people from surrounding regions due to the better education facilities, employment opportunities, and higher wages available in this city (DKI Jakarta Province, Statistics Bureau, 2018). An analysis of the 2018 Education Statistics Data reveals that the number of students who enrol in SMK is higher than in *Sekolah Menengah Atas* (SMA) (general senior secondary schools), indicating a preference for vocational training (Ministry of Education and Culture, 2018). The region also has several non-formal vocational institutions that offer vocational training to adolescents and youth. Children in the region attend school for 11 years on average, with relatively low dropout rates. Analysis of 2017 data reveals that 248 children dropped out of primary school (mostly in grades 1 and 5); 269 persons dropped out of junior high school (mostly in grade 8); and 167 people dropped out of senior high school (mostly in grade 10). Across all levels of education, male students are more likely to drop out than female students. Fewer children from the middle and bottom 40 per cent income classes attend senior high school. There is limited evidence regarding the reasons for this, but discussions with education specialists in Indonesia suggest that boys drop out early to start earning an additional source of income for the family, choosing to discontinue their education. Early marriage and financial constraints are some of the key reasons why girls drop out of school.

The service sector (wholesale, transportation, finance, and other services) employs 78.47 per cent of the population of East Jakarta, while the manufacturing sector employs 14.69 per cent of the population. During fieldwork, the team interviewed some representatives of the manufacturing and service sectors to explore employer perspectives on skills for the future.

Semarang is a vibrant industrial hub, comprising of 16 sub-districts and 177 villages. In 2016, the population in Semarang was 1,729,428 with a growth rate of 1.66 per cent; 4.85 per cent of the population lived below the poverty line. About 71.55 per cent of the population in Semarang municipality were of the productive age group (aged 15 to 64). Semarang is known as a key manufacturing hub with a vibrant start-up ecosystem. The key sectors which contribute to the GDP of the region are manufacturing (27.45 per cent); construction (26.88 per cent); wholesale and retail, including car and motorcycle repair (14.06 per cent); information and communication (7.05 per cent); and financial services (4.45 per cent). The net enrolment rate in 2016 for primary, lower secondary, and upper secondary schools were 82.28 per cent, 89.60 per cent, and 79.95 per cent respectively; the labour force participation rate was 66.96 per cent; and the unemployment rate was 5.77 per cent (Semarang

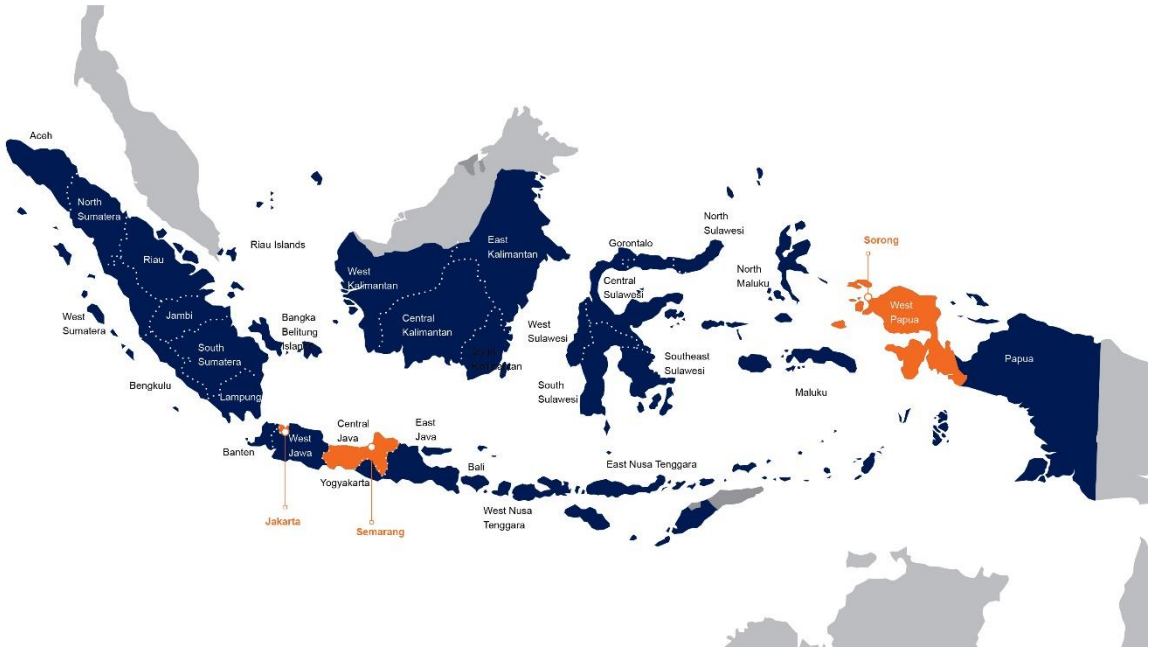
Statistics Bureau, 2018). Data in 2017 indicated that the percentage of girls aged 7 to 24 who dropped out of school was lower than that of boys for the upper secondary school level (6.70 per cent compared to 1.99 per cent) (Central Java Statistics Bureau, 2018).

Sorong is the third most populous district in West Papua, adjacent to Sorong City. Adolescents form 19.5 per cent of the population. The unemployment rate in the region is 4.56 per cent, lower than the national average (West Papua Province Statistics Bureau, 2018). In terms of education, the average years of schooling for West Papua province and Sorong district are 9.67 and 9.08 years respectively. The literacy rates for males and females are 98.05 per cent and 95.54 per cent respectively (*ibid*.). Sorong also has the highest number of out-of-school adolescents (aged 7 to 24). The key industrial sectors in Sorong are mining and quarrying, construction, agriculture, fisheries, forestry, and public administration activities (West Papua Province Statistics Bureau, 2018). Sorong has also seen a high influx of migrants from Makassar, Ambon, Java, and other islands around Papua.

The three selected sites therefore provide diversity and access to the nuanced perspectives of multiple actors on the theme of skills for the future.

The following figure plots the three fieldwork sites on a map of Indonesia to illustrate these locations.

Figure 4. Key locations for fieldwork in Indonesia



Source: OPML analysis

3.3 Sampling strategy for selecting respondents

Within each selected site, our sampling strategy identified and selected an appropriate sample of respondents to participate in the study. Purposive sampling was applied to select relevant key informants at the national and district levels. A comprehensive list of specific

stakeholders to be consulted was drawn up based on the evidence (data and information) of the selected site, our previous work and network at the location and suggestions from UNICEF Indonesia and other actors.

The team ensured that the locations covered similar institutions and actors. We were, however, not rigid and did not insist on the same respondents across locations, as actors in each location often had differing levels of influence and knowledge relevant to this research study. We used our own networks to gain access to key stakeholders at the district and local levels and UNICEF Indonesia also facilitated introductions. The team finalised the list of respondents to visit in each district prior to commencement of fieldwork and after final consultations and suggestions from UNICEF and other relevant actors (such as district government officials).

This research was conducted at national, district, and local levels. Data collection with government - both at national and district level - provided deep insights on policies and strategies on skills challenges from various perspectives. Detailed conversations with key NGOs provided further information on the key engagements taking place in the skills landscape in the country. Based on our consultations with UNICEF and our findings from the desk review, we engaged with youth by age group, splitting them into two groups: individuals aged 10 to 14 years old and individuals aged 15 to 18 years old. This allowed us to focus on the different sets of skills that might be relevant to these age groups.

The selection of the type of schools sought to cover the most important providers covering the region, with a focus on general schools, Islamic schools, and vocational schools. We sought to select a balance of rural and urban schools so that we could assess differences (if any existed) based on agricultural versus non-agricultural work, formal versus informal sector, and so on. We also sought to maintain some balance between public and private schools to ensure that we captured the diversity of experiences in our fieldwork contexts.

At the school level, further engagement with teachers and parents allowed us to develop a comprehensive understanding of the pedagogy and mechanisms through which young people develop different kinds of skills. Teachers could also inform us about the gap between theory and practice in acquiring skills, and what improvements are needed in the curriculum. Similarly, we interacted with community actors because the community provides another avenue for transferring skills to young people. The youth themselves provide their own perspectives and goals and these are at the core of this research. Given that ‘inclusion’ is an important component of the study’s analytical framework, we engaged directly with OOSC and young people who might not have completed secondary education, including those who are currently enrolled in education equivalency programmes (*Kejar Paket* B and C). In Sorong and Semarang, we spoke to parents of OOSC and young people that were not taking the education equivalency programme. In addition, we also spoke to communities of children with special needs (such as children with disabilities and groups of young people where some of its members once used drugs).

Since employers are at the core of determining the demand for skills, we also engaged with representatives from employers. We selected employers mostly based on their contribution to the local economy, including providing employment opportunities for others. We spoke to human resource managers (who undertake recruitment) and also to senior managers/leaders within organisations to give us a sense of how firms or sectors are likely to change over the next 10 years. We also interviewed job-matching companies to get their perspectives on these issues. This engagement included the private sector to ensure that

our conception of skills covered the diversity of skills within the Indonesia economy. After consulting with our local contacts, we decided to focus on the formal sector to gain broader perspectives of the employment opportunities in the regions. The entrepreneurship context, such as the skills needed for being an entrepreneur, has been captured during discussion with training providers and school stakeholders, especially teachers.

Based on this sampling strategy, the actual list of respondents with whom we engaged is presented in Annex B.

3.4 Research techniques and respondents

The research made use of three key research instruments—KIIs, FGDs, and observations. All KIIs and FGDs utilised structured and unstructured methodologies. Structured methods allow for the efficient testing of pre-specified hypotheses and unstructured methodologies allow for unanticipated or context specifics to be captured and for new hypothesis to be developed.

The KII tools were thus semi-structured by design; particular themes already identified as being of interest to the research were assessed, and open-ended questions were also posed. This flexibility allowed the team to probe further and to develop inquiry into relevant themes as they arose during the fieldwork.

The FGDs allowed us to interact with many people at the same time, increasing the reach of our evaluation. The FGDs included a participatory approach, where we used interactive tools to engage respondents fully throughout the process. We invited participants to map out their multiple life trajectories on to flip charts, highlighting various skills they acquired and/or needed as they progressed along those trajectories. Using post-it notes, markers, and stickers, participants discussed with each other to visually represent the skills landscape in their lives. Such an approach ensured lively engagement on their current skills, skills needed for the future, available channels for acquiring various skills and the challenges faced by respondents in acquiring them. While the initial discussion was open-ended and organic, we also presented UNICEF's Global Skills Framework to the respondents in the end, showing them the visual representation (as available in Annex A7) and collecting their responses and perspectives on this.

Figure 5. Key skills identified by respondents and ranked based on its importance

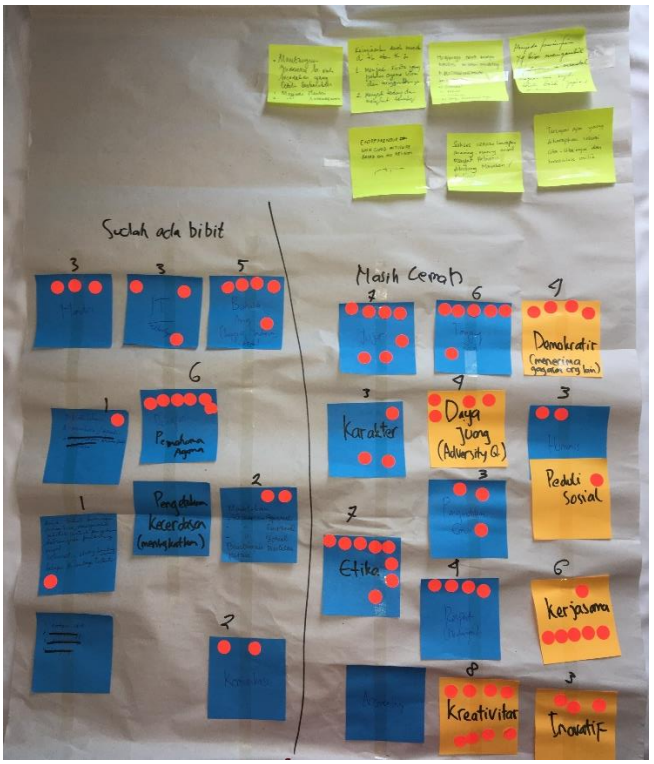


Figure 6. Respondents huddle together to discuss various key skills

Source: OPML fieldwork team

This method helped improve the dynamics of the discussions and enriched their responses based on the research questions. The discussions allowed examination of different themes and we received consultative feedback from a range of actors. From this, we were able to validate findings both within the group (from each FGD) and between the groups (based on other FGDs and interviews). Details on methods and the purpose of each are set out in Table 2.

Table 2. Research methods and purpose

Method	Purpose
Informal observations including observations at the individual, household, school, community, and district levels.	• To build rapport with respondents. • To assess the general situation in our research sites. • To develop an informal understanding of key issues concerning skills. • To verify the findings gathered through more formal research processes.
FGDs: • Parents; • School teachers; and • In and out-of-school students.	• To understand multiple viewpoints and capture differential experiences and perceptions. • To increase research coverage. • To allow for internal verification of information through the participation of multiple respondents. • To gauge degrees of agreement and disagreement on key themes.
Interviews: • In-depth interviews were carried out with OOSC (at primary and secondary levels), parents of OOSC (at the pre-primary, primary, and secondary levels), teachers, employers, and government officials.	• To obtain in-depth information from individual respondents. • To provide respondents with the privacy and freedom to respond openly without the presence of other group or community members.

The field team began FGDs on skills with adolescents by first asking them about their current and future achievements in life. We then asked them what type of skills they need to achieve their goals. Adolescents were asked to provide examples to illustrate what they understood by the term ‘skills’ and why they felt a certain skill was important to ensure a shared understanding of concepts. On a few occasions where the discussion focused only on technical skills, the field team probed deeper and steered the discussion onto transferable skills, using terms such as ‘soft skills’ (in English) or *keterampilan dalam hidup* (life skills). During the group discussions, a visual aid which portrayed the key transferable skills outlined in UNICEF’s upcoming Global Skills Framework was also used to clarify the meanings of skills. Similarly, during interviews with parents and teachers, the field team clarified the meaning of key concepts such as ‘foundational skills’ and ‘transferable skills’, prior to the discussion, to ensure a shared understanding of key concepts.

To obtain information from a wider cross-section of adolescents in Indonesia, the research team worked in collaboration with the UNICEF Indonesia team to conduct a poll using the U-Report digital platform.[11]

UNICEF launched U-Report in Indonesia in 2015 as an "innovative new platform that gives young people the chance to speak up on issues that affect their lives". This Facebook, WhatsApp, LINE, Instagram and SMS based polling mechanism enables young people aged 14 to 24 years old to share their opinions on topics ranging from education to violence to health to governance. The responses are analysed and shared with key partners, including government, to contribute to policy debate and programme design. In this instance, the U-Report platform allowed adolescents to participate further in the research, which helped the research team to triangulate the key findings.

UNICEF Indonesia advise that 'U-Report is a tool to promote youth participation and the data collected is useful to understand adolescent perceptions. Since this is anonymous data and we do not control who signs up or answers the polls, we cannot claim that it is objective or representative data' (UNICEF, correspondence with the authors). The findings from U-Report should thus be understood and interpreted in this context.

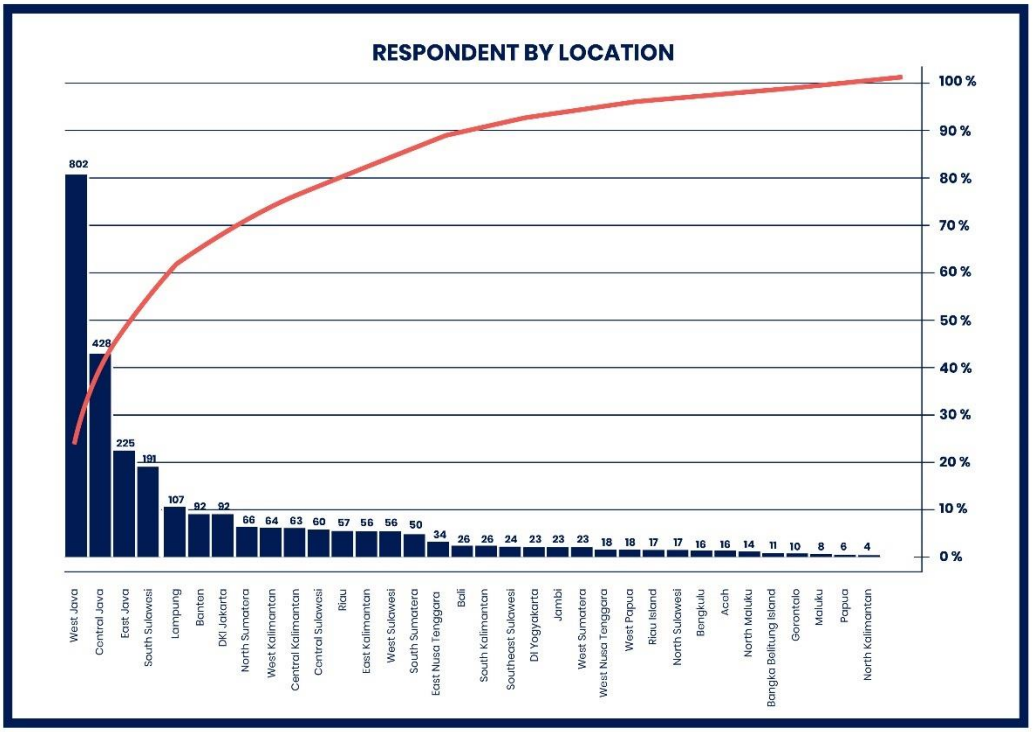
With the support of UNICEF Indonesia, an adolescents' poll was launched on 7 March 2019. The research team identified three follow-up questions based on initial findings from the fieldwork and sought input and advice from UNICEF Indonesia to hone these further. The key questions were as follows:[12]

- What are the top three skills that you have now?
- What are the top three skills that you will need in the future?
- In which platforms do you want to acquire these skills for the future?

A total of 2,929 respondents (1,375 male, 1,554 female) responded to the poll. Further details about the respondents are presented below. By location, 50 per cent of U-Report respondents reside in West Java, Central Java, and East Java, and 50 per cent come from other provinces inside and outside Java island. Figure 7 provides an overview of the location of key respondents.

[11] Refer to www.facebook.com/UReportindonesia/, https://indonesia.ureport.in, and https://twitter.com/ureport_id?lang=en for further information.
[12] More details on the questions and the list of options for the answers are explained in Chapter 4.

Figure 7. Respondents by location



Source: UNICEF (2019) U-Report poll data

3.5 Analysis

There were multiple stages to the analysis, starting right in the field. As a key part of the research process, we asked research teams to start initial synthesis and analysis in the field following each individual interview or FGD. This was followed by a daily debrief exercise at the end of each day to identify research gaps to be addressed in the next day of fieldwork. At the end of the research activities in each site, there was a full team brainstorming session to consolidate and synthesise all the findings from that community. These activities are detailed in Annex C.

These sessions were documented, translated and shared with the research leads, who then conducted the final stage of analysis and consolidation of the findings. These findings were then discussed again with the research team to ensure that the interpretations and analysis were consistent with the experiences captured by the field researchers. The preliminary findings were also discussed with UNICEF as part of the consultation and validation process.

3.6 Limitations

The evaluation team faced a number of challenges during fieldwork and analysis. Although the team sought to address them through an iterative research process, some limitations remain. We present the key limitations below.

3.6.1 Time and timing constraints

The fieldwork as well as the wider evaluation were carried out under extremely tight timelines. This involved a number of difficulties, which have affected the report in many ways.

For instance, the tight timelines meant there was little flexibility in timing the fieldwork at the three sites. During the preparation and planning for fieldwork, we found out that the school cycle was not conducive to our fieldwork timing, which was essentially predetermined given the timeline of the project. In two of the three districts, fieldwork coincided with the exam schedule: schools were only operating pre-exam remedial classes in one district, while in the other district, schools were actually closed for the exams.[13] Given the tight timelines, although we were able to reschedule our school visits in one district by a few weeks, we had no choice but to visit the schools in the other district as scheduled. Although we discussed the situation with the school headteachers and teachers in advance, the fact that only students taking remedial classes were in regular attendance meant that we were not always able to speak to a representative group of students during our visits. Similarly, convening parents through random sampling was also not always feasible when their children were not in school, so we had to rely exclusively on the support of school staff to convene parents, affecting our sampling strategy. Since the schools were focused on conducting exams themselves, it was also more difficult to seek and receive their support during fieldwork.

3.6.2 Sampling difficulties

Although the evaluation team had developed a clear sampling strategy for the evaluation, it was not always possible to follow this plan to interview our selected respondents. For instance, the team wanted to select students and parents randomly from specific classes for the FGDs, but the lack of availability of all students (because of the remedial schedule, as discussed above) meant that we had to make a selection from those students who were actually available and from parents who lived close to the school. We did not want to disturb the school schedule during exam time either, so we sought to select respondents in the least disruptive way by relying more on school staff to help identify relevant respondents. Although we explained the concept of random sampling and requested them to provide us with a diverse set of respondents at the school level, we could not be certain that they had not selected the most confident, outspoken, or accomplished students to speak with us.

As these examples demonstrate, we could not always follow our sampling plan for engagement as part of the research. We nonetheless sought to remain flexible and adaptive on the ground, seeking to reach out to a wide range of representative stakeholders and triangulating the findings at each level.

3.7 Ethical considerations

The main principle guiding this research was to do no harm to the respondents and participants in the study. Field researchers were trained extensively on best practices in

[13] We discussed this regularly with the UNICEF team and made all reasonable adjustments possible, such as swapping field sites and delaying fieldwork. However, the project timelines were extremely strict, and there was limited flexibility for changing fieldwork plans and timing.

ethical research, and clear directives were in place to ensure that any ethical concerns could be addressed effectively. For instance, each field researcher was briefed regarding the need to inform the fieldwork coordinators about any ethical issues arising in the field; the fieldwork coordinators were in turn expected to reach out to the research leads without delay. Although no such concerns arose in the field, if they had done, the research leads would then have consulted with UNICEF colleagues to ensure a swift and sensible resolution for emerging issues.

Further details about our approach to ethics can be found in Annex C.

4 Skills acquisition in Indonesia: skills, channels, and bottlenecks

4.1 Introduction

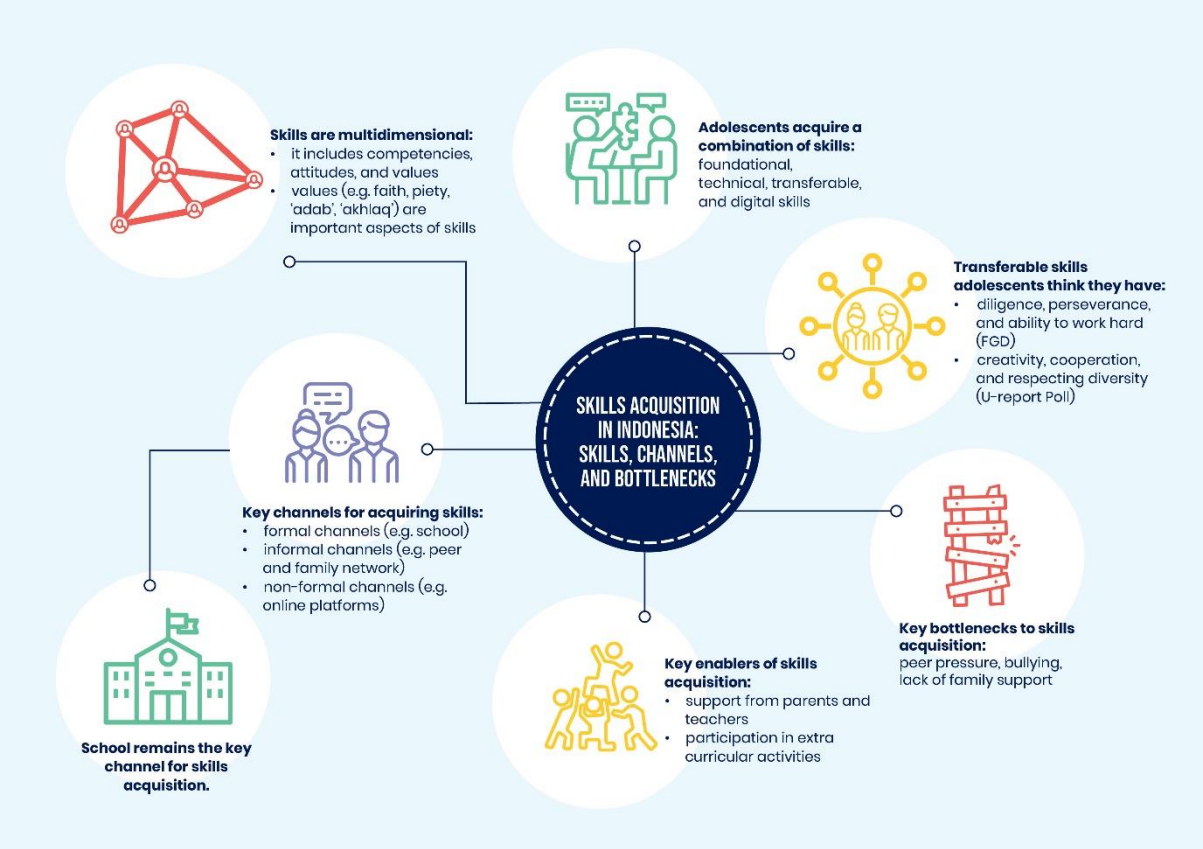
This chapter begins by providing a snapshot of how different actors (adolescents, parents, teachers, employers, and the government (national and local) define and understand the term 'skills'. The chapter then highlights the skills that adolescents currently possess, the key channels through which these skills are acquired, and the bottlenecks that adolescents face in acquiring these skills from the perspective of different actors in Jakarta, Semarang, and Sorong.

This chapter is structured around answering five key questions:

- How are 'skills' defined and understood by different actors in Indonesia?
- What kinds of skills are currently being acquired by adolescents in Indonesia?
- What are the different channels through which these skills are acquired?
- What are the barriers and bottlenecks that adolescent boys and girls face in acquiring these skills? and
- What are the barriers and bottlenecks that institutions (governments, schools, training institutions, and employers) face in providing these skills?

The key findings from the chapter are highlighted in the graphic below.

Figure 8 An overview of key skills being acquired by adolescents in Indonesia



Source: OPML analysis

To obtain the views of a wider cross-section of adolescents from around the country, the research team collaborated with UNICEF Indonesia to administer a poll using the U-Report digital platform.[14] This poll helped expand the scope of the enquiry to ensure participation and engagement with a wider cohort of respondents.

With the support of UNICEF Indonesia, a U-Report poll was launched on 22 February 2019. The research team identified three follow-up questions based on initial findings from the fieldwork and sought input and advice from UNICEF Indonesia to hone these further. The analysis presented in this chapter combines the material collected through fieldwork with the answers obtained through the U-Report poll. The three key questions asked in the U-Report poll, along with the choice of responses presented to the adolescents, are summarised in Figure 9 below. The table includes the 12 transferrable skills in the UNICEF Framework as well as skills that were highlighted by adolescents during the field work.

Figure 9. Key questions for U-Report poll

What are the top 3 skills you have now?	What are the top 3 skills that you will need for the future?	In which platforms do you want to acquire these skills for the future?
• Cooperation • Resilience • Empathy • Communication • Negotiation • Participation • Critical thinking • Social skills • Digital skills • Creativity • Decision-making • Self-management • Respecting diversity • Problem solving • Others. Please mention _____	• Cooperation • Resilience • Empathy • Communication • Negotiation • Participation • Critical thinking • Social skills • Digital skills • Creativity • Decision-making • Self-management • Respecting diversity • Problem solving • Others. Please mention _____	• In school – curriculum • In school – extracurricular activities (including Scouts) • In Community Learning Center (PKBM) • In youth club • In religious groups (such as Quran/Church group) • On the job training • E-learning: digital game apps • Others. Please mention _____

Source: UNICEF (2019) U-Report poll data

4.2 How are 'skills' defined and understood by different actors in Indonesia?

Skills are a multidimensional concept. Respondents across all three regions defined skills in 'multidimensional' terms, as competencies, attitudes, and values. Other terms (such as 'ability', 'talent', and 'capability') were also used. Respondents (ranging from adolescents to government officials) noted a range of different skills that could broadly be categorised into three core dimensions, described below.

i) **Job-specific or technical skills:** There was broad consensus across respondents in all three regions that 'skills' broadly refers to a competency or 'the ability to do something well'. However, different categories of respondents prioritised or valued different kinds of skills within this category.

[14] Please refer to www.facebook.com/UReportindonesia/ , https://indonesia.ureport.in and https://twitter.com/ureport_id?lang=en for further information.

a) For adolescents in school, examples of technical skills included the ability to play a sport well; the ability to play a musical instrument/dance/sing; the ability to produce art, such as drawing or crafts; or the ability to excel at academics. They listed these as some of the key technical skills they currently have. Adolescents over 14, particularly those attending vocational schools, categorised job-specific skills, digital skills, and fluency in foreign languages as technical skills. Entrepreneurship skills were mentioned by adolescents across all three fieldwork sites and were categorised as 'technical skills'. While adolescents under 14 years of age mentioned 'entrepreneurship skills' as an important skill set, they were unable to explain some of the specific skills in this category. Adolescents over 15 years in Jakarta and Semarang mentioned creativity, the ability to innovate, IT skills, and financial skills as key skills for entrepreneurship. These skills were characterised as 'technical skills'.

b) Parents and teachers referred to literacy, numeracy, IT skills, and language skills as 'technical skills'. Interestingly, parents and teachers across regions categorised the above skills as 'technical skills' and not 'foundational skills' (as mentioned in UNICEF's Skills Framework). The technical aspect of skills highlighted by teachers and parents included academic excellence and digital literacy (particularly IT skills). The definition of 'foundational skills' was clarified with parents and teachers during the group discussion as 'the basic, fundamental skills required for life and work', but respondents tended to see overlaps between foundational and technical skills.

c) Employers and government officials defined technical skills in narrow terms, focusing largely on technical skills for employability. English language skills and IT skills were highlighted as key 'technical skills' that adolescents will need to acquire in the future.

ii) Attitudinal skills: All respondents highlighted attitudinal skills as the core component of the skill set adolescents have today and the skills adolescents will need for the future.

a) Adolescents across all three fieldwork sites gave examples of 'self-confidence', 'diligence', being 'hardworking', and 'persistence' as important attitudinal skills they currently possess and will need to build on for the future.

b) Teachers highlighted how the 'right attitude' can help adolescents learn effectively. Parents linked these attitudinal skills with good behaviour, which they felt was a key skill for their children, both for now and for the future.

c) The importance of the attitudinal aspect of skills was highlighted by employers interviewed in the manufacturing and services sectors, who categorised these skills as 'soft skills'. Human resource managers from both sectors explained that the key skill they look for when recruiting new candidates is whether they have the "right attitude". When probed further, employers explained that this includes an "openness to learn new things, humility, diligence, persistence, and politeness". Employers, parents, and teachers across regions emphasised that they valued these attitudinal skills even more than technical skills, especially in relation to the future. This finding is in contrast to findings in other skills gap studies conducted in the ASEAN region (e.g. ILO 2016) in which employers specifically highlight the technical skills gaps that workers have.[15] A major recruitment firm also mentioned that attitudinal and interpersonal skills were some of the key skills they look out for when hiring for middle- to senior-level positions. The representative of the firm also explained how certain attitudes (such as the willingness to learn and unlearn), persistence, and

[15] It must be noted, however, that only a few employers were interviewed in this study, and this response could result from the kinds of firms sampled in this research project.

strong interpersonal skills are some of the key skills required for individuals to progress in their careers.

iii) Skills as (religious) values: The idea that values are also skills was an important point echoed by parents, teachers, government officials, and some adolescents during research.

a) Parents, teachers, and government officials described "good values" as important skills that young people need to possess now and in the future. These values were almost always described in relation to religion, using religious terms such as *akhlaq* and *adab*, which pertain to good behaviour, politeness, and moral conduct. Parents and teachers across regions emphasised the importance of piety and faith (*iman*) and explained that these values will influence adolescents in making choices and taking important decisions about their lives; they are therefore critical for the future. As a result, they characterised these values as 'foundational skills' and believed that values provide a strong foundation for acquiring skills. Parents and teachers emphasised that these values play an important role in enabling adolescents to cope with challenges in life and will shape the choices and decisions that adolescents will make in the future (*see Box 4*).

b) A few adolescents who were studying in religious schools in Jakarta mentioned praying and "being pious" as skills they currently possess. However, this point did not come up in group discussions with adolescents in Semarang and Sorong.

It is important to note that all respondents highlighted the point that these different dimensions of skills are interrelated.

How does categorising skills into technical skills, attitudinal skills, and skills as values relate to UNICEF's upcoming Global Framework? Three key points stand out when assessing the responses obtained in the study and relating them to UNICEF's upcoming Global Framework.

- First, the skills mentioned by respondents seem to cut across the different categories of skills mentioned in UNICEF's upcoming Global Framework. For example, a number of transferable skills (as defined in UNICEF's upcoming Global Framework) - such as skills for entrepreneurship, creativity, and communication skills - were also considered technical skill' or job-specific skills by respondents. How people define and categorise skills therefore varies depending on the context in which a specific skill is used. For example, communication skills can be a job-specific skill for a teacher, but it could be a transferable skill (skills for personal empowerment) for an adolescent aspiring for a job.

- Second, the idea that values (particularly religious values) are important (and distinct from attitudinal skills) is a point that repeatedly came up during group discussions. Religious values are not a component of UNICEF's upcoming Global Framework and values are subsumed under its 'transferable skills' component. Are values skills? If so, does this merit integration into UNICEF's Skills Framework? These are important questions for the Government of Indonesia to consider when adapting UNICEF's upcoming Global Framework into the Indonesian context.

- Third, respondents mentioned that language skills and digital skills were important for adolescents today and in the future. Respondents across all districts and groups mentioned that these skills cut across the three categories of the UNICEF Skills Framework. We would argue that these skills are cross-cutting skills that could fit into any of the three categories of the UNICEF Skills Framework depending on the level of the skill and the context in which it is applied. For example, basic computer literacy could be a foundational skill, whereas coding could be a technical skill or a transferable skill if it could

be used to develop new apps or products. However, it would be important to integrate these skills explicitly as important components of UNICEF's upcoming Global Framework.

An important insight from this finding is that there is a need to arrive at a consensus on what 'skills' are how specific categories of skills (such as technical skills, transferable skills or digital skills) are defined. Consistency in the use of these terms and a common shared understanding of what skills are is vital for effective programme design and intervention.

4.3 What kinds of skills are being acquired by adolescents in Indonesia?

During group discussions, the field researchers asked adolescents, parents, teachers, employers, and government officials in all three regions, a series of questions to understand the kinds of skills that are being acquired by adolescents. We also mapped out the key actors and institutions through which these skills are acquired. The focus was not merely on skills acquired through the formal education system, but rather on skills obtained through a wide range of institutions (formal, informal, and non-formal, as mentioned in Chapter 1). We categorised the skills adolescents currently have into the three categories mentioned in UNICEF's upcoming Global Framework at the time of fieldwork: foundational skills, technical skills, and transferable skills[16].

- Foundational skills: Adolescents reported acquiring basic foundational skills (such as literacy and numeracy) as part of the school education system. This is in contradiction with the 2015 PISA scores that show low learning outcomes for maths and reading among 15-year olds in Indonesia[17]. The school curriculum imparts foundational skills (including reading, comprehension, writing, and arithmetic) in different grades of the school education system. Basic language skills and basic digital skills are also being considered as foundational skills that are increasingly becoming core skills to serve as the basis on which new kinds of skills can be acquired. These skill sets were being acquired in all three districts of Indonesia, but adolescents in Jakarta and Semarang seemed to have more opportunities to hone these skills through formal education, after school classes and extracurricular activities than adolescents in Sorong.

  The foundational skills that adolescents currently have are assessed through examination systems that test the knowledge and competencies adolescents have in these areas. Interviews with parents, teachers and government officials reveal that the focus of examinations and assessments is on the knowledge that individuals possess in these areas, with a limited focus on the application of these skills to real-life situations. Some teachers and government officials highlight the need to shift the focus of examinations onto assessing how well adolescents can apply these skills to real-life situations, as they believe this will be important for them in the future.

- Technical skills: adolescents acquire a wide range of technical skills through formal, informal, and non-formal institutions. Adolescent respondents felt they have a broad range of job-specific technical skills that they can acquire through SMKs, short-term private courses or training programmes organised by employers. Some of the key technical skills that adolescents who participated in the study were acquiring included garment manufacturing, being a motor vehicle mechanic, mobile phone repair, sales and marketing, finance and banking, coding, software programming, and web design. Adolescent respondents in Jakarta and Semarang felt they could choose to pursue a wide range of technical skills, with many institutions offering courses. In contrast,

[16] At the time of fieldwork, the UNICEF's upcoming Global Framework was still evolving. At that time, digital skills were not considered a separate category of skills.

[17] Indonesia's PISA score ranked 62 out of 70 countries. (OECD-PISA Indonesia Country notes https://www.oecd.org/pisa/PISA-2015-Indonesia.pdf)

adolescents in Sorong reported that they had very limited options and had to rely on personal networks to obtain information about these options. They therefore often settled for courses based on what was available, rather than based on their aptitude or interest.

- Transferable skills: adolescents in all three districts reported that they acquired a wide range of transferable skills that fit in well with the four sets of transferable skills mentioned in UNICEF's upcoming Global Framework. When asked in the FGDs about the skills they currently have, adolescents across regions mentioned a range of transferable skills. This included creativity, cooperation/collaboration, and broad attitudinal skills such as diligence (*rajin*), persistence (*pantang menyerah*, *daya juang, ketangguhan mental*), the "ability to work hard and learn new things", communication skills, social skills (*kemampuan bersosialisasi*), and public speaking. Adolescents mentioned that they were keen to develop these skills further, as they believed these skills would be important for the future. These are considered by adolescents as cross-cutting skills that will help them learn and acquire new skills, while making them more self-confident and more employable in the future[18].

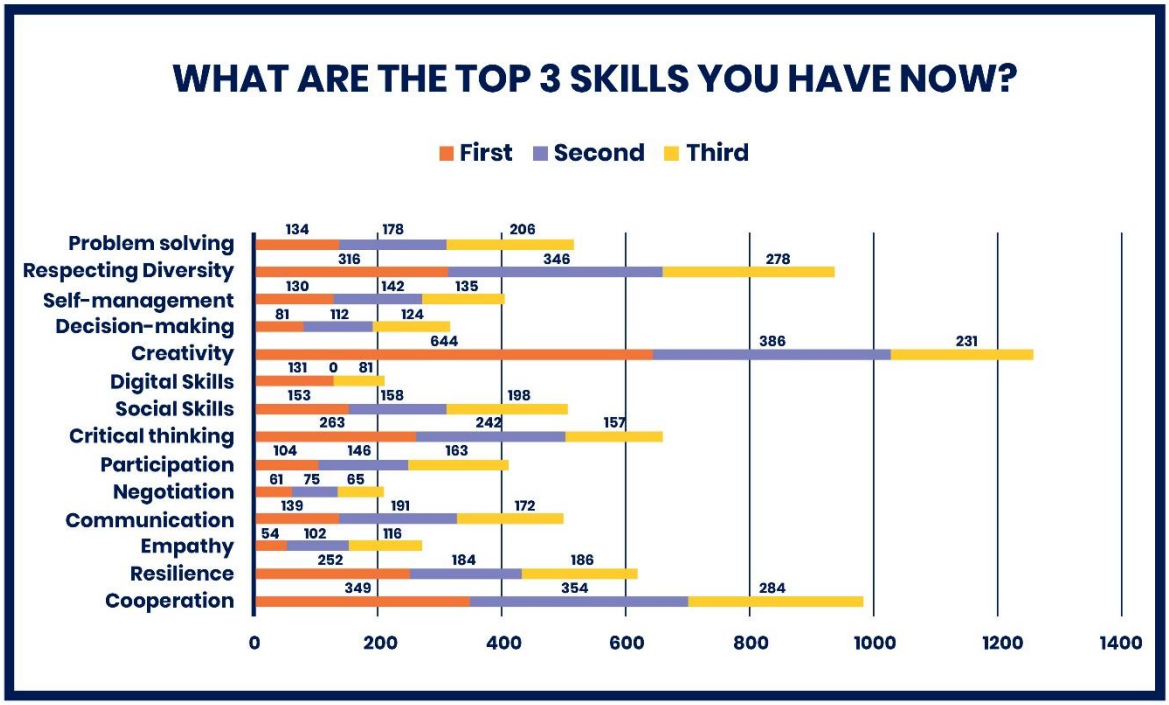
  Adolescents were asked to highlight the key transferable skills they currently have (based on the skills mentioned in UNICEF's upcoming Global Framework) using the U-Report poll. In terms of skills adolescents currently possess, creativity, cooperation, and (respect for) diversity were the three most commonly mentioned skills by adolescents, in that order. Adolescents who participated in group discussions highlighted the importance of creativity and cooperation as key skills they currently possessed. Adolescents who participated in the U-Report poll mentioned "respect for diversity" as an important skill they have.

  As Figure 10 demonstrates, both male and female respondents ordered their top three skills in the same way. Male and female responses in the FGD were also similar.

  The key responses obtained during the U-Report poll are summarised in the figure below.

[18] While there is no official assessment of transferable skills acquisition in Indonesia, the Ministry of Education and Culture started to implement of an online-student survey, conducted together with the computer based final examination targeted all grade 9 students in Indonesia. This survey includes some perception questions on the attitudinal skills, transferable skills and values. The result of this survey is not available yet, but it may be able to bring some insight on the transferable skills acquisition among junior secondary school students in Indonesia.

Figure 10. Top skills that adolescents have (male and female)



Source: UNICEF (2019) U-Report poll data

What skills did adolescents believe they lacked? According to the U-Report poll, the least reported skills by adolescents were negotiation skills followed by digital skills and empathy, with decision making following closely behind. There is a gender dimension to the skills adolescents feel they do not have according to their responses. Male adolescents identified empathy as the skill they lacked most, followed by negotiation and then decision making. Female adolescents overwhelmingly identified digital skills as the skills they lacked most, followed by negotiation and decision making—so the ordering of these skills was different for male and female respondents. In the FGDs, both male and female respondents across all three regions mentioned digital skills and self-confidence as the top two skills they currently lacked.

4.4 What are the different channels through which these skills are acquired?

Skills acquisition takes place within formal school education system (including vocational schools), non-formal (courses, training, PKBM), and informal institutions (such as the home, societies, and clubs) in Indonesia. The school, home, and peer networks are the key channels through which adolescents acquire a wide range of foundational, technical, and transferable skills. Data from the FGDs and the U-Report poll show that the school emerges as the most important site for acquiring foundational and transferable skills in all three locations.

Technical skills for employability are acquired through state training centres, which are free of cost and accessible to the public. Private training centres also provide technical/employability skills for a fee. In Semarang, there is a dedicated state-funded training centre which provides training in sewing machine operation to cater to the increasing demand for labour in the garment industry. Training centres in Semarang provide training in

both technical skills and soft skills. However, soft skills training only forms a small component of the training programmes according to trainees.

Adolescents across all three districts highlighted the importance of extracurricular activities as a major channel through which new skills can be acquired and existing skills strengthened. Adolescents in Jakarta and Semarang were exposed to a wide range of channels through which they could enhance the skills that they acquired through formal education. In contrast, adolescents in Sorong had fewer options to choose from, and the number of channels available to them was also limited in comparison to Semarang and Jakarta.

Parents and teachers play an important role in encouraging adolescents to participate in extracurricular activities in school. Teachers also play an important role in providing mentorship support to adolescents who participate in extracurricular activities. For instance, an adolescent girl attending a *Sekolah Menengah Pertama* (SMP) noted:

> My parents motivate me: if I get a good rank, they buy me something. I used to take an additional course for academic subjects. Sometimes I still don't understand the subject, but I continue the course anyway because I'm curious. My mathematics tutor lives nearby, so I can ask him if there's anything I don't understand. Sometimes I also ask my Mom, because she's a high school teacher.

Parents and teachers, particularly in Jakarta and Semarang, highlighted the importance of extracurricular activities in enabling adolescents to acquire additional skills. These include social skills, which they believe enable adolescents to "adapt to change", "get along with people", and "work in teams". Adolescents also explained how participation in extracurricular activities helped them acquire mental strength and self-confidence. For example, an adolescent girl attending an SMP said:

> I won a swimming competition. I must dare to take risks, because in swimming one must take risks. What if I sink? What if I hit a wall when doing backstroke, or suddenly become short of breath when under water? So, I must be brave. I also need to have sportsmanship—I need to accept the results, whatever they are, but I must improve them. I must be physically and mentally strong, because in swimming, when you breathe, your body movements must also be strong. Mentally, I need to be brave to compete and have the mental strength to do so.

The quote demonstrates how an adolescent girl links the skills she has acquired through sports to a range of other skills, such as bravery and physical and mental strength. An adolescent boy articulated a similar experience related to his pursuit of sports:

> When I was very young, I heard about a martial arts (*silat*) competition. My mother asked me to try it if I was interested. When I started, I began to enjoy it and did more and more training. I started learning new kinds of martial arts, such as karate in kindergarten, Taekwondo in elementary school, and *silat* in Grade 7. I won many interschool competitions.

In contrast to Jakarta and Semarang, only a few students participated in extracurricular activities in Sorong. The choice of extracurricular activities available to adolescents was also very limited when compared to Jakarta and Semarang and typically included sports. Several adolescents in Sorong spoke of how they took on part-time jobs outside school (selling goods in the local market or assisting their parents) to support their families. Adolescents in Sorong mentioned that these activities have also taught them important skills such as the value of hard work, perseverance, and managing finances.

The theme of 'perseverance' (*daya juang*), 'never giving up' and 'determination' were key points that came up repeatedly in group discussions with adolescents, across all three regions. Adolescents considered these skills as important qualities that they possess, and they emphasised that these skills would be important for the future. Adolescents also associated these qualities with professional success. This idea aligns with recent 'grit theories' in psychology which emphasise the importance of perseverance and determination, as key qualities to ensure success (see Duckworth, 2006). It is important to note that adult respondents, such as parents and teachers also echoed this view.

The need for the home and school environment to be aligned (in terms of values and priorities) was essential to enable adolescents to maximise their potential. This point was repeatedly highlighted by both parents and teachers across regions. Teachers expressed that they were under pressure to deliver according to the demands of an intensive school curriculum, while simultaneously meeting the demands of parents to equip students with values, social skills, and exposure to extracurricular activities. They expected parents also to take more initiative so that the lessons and values taught in school were applied at home. In contrast, parents explained that students did not have time to undertake other activities due to demanding school hours. In Sorong, teachers complained that students are distracted and unmotivated as they are often burdened with additional part-time jobs to support their parents. Teachers in Sorong also believe that adolescents who indulge in antisocial behaviour and bad habits such as smoking, drinking, or alcoholism do so because of a negative environment at home.[19]

Religious groups, community groups, and societies, including youth clubs, are key channels for adolescents to learn new skills outside school. Many adolescent respondents in the three locations were members of a wide range of organisations and networks through which they acquire diverse skills. This includes learning a sport, music, dance, painting or language skills. Importantly, parents emphasised the importance of these groups in enabling adolescents to acquire valuable social skills (*kemampuan bersosialisasi*) and values such as persistence (*daya juang)*, which they believed were important skills adolescents need to become successful adults. The out-of-school adolescents also highlighted the importance of their peers as a strong social support group.

Across all three regions, employers play an important role in equipping adolescents with technical skills and transferable skills. Employers provide technical training and soft skills training for entry-level workers. A key point mentioned by employers is the disconnect between the skills that entry-level workers (who have completed school or SMK) have and what they require in the workplace. Employers across regions mention that they invest in training entry-level workers to be 'job-ready' and comply with the minimum standard of the respective companies. For example, employers in the oil and gas sector need to undergo basic safety training, even if they are unskilled workers. The level of training offered varies across the level of the companies. Semi-skilled workers often need to join training conducted by industry associations and acquire certifications to industry specification. These certifications are often expensive and unaffordable for entry-level workers. A firm in the manufacturing sector also highlighted how they needed to train entry-level workers on soft skills such as discipline, punctuality, and persistence. In Jakarta and Semarang, apprenticeship training was offered to entry-level workers, and mid-career employees also had opportunities to acquire new skills and undergo leadership training.

A key point that was echoed by employers across regions was the point that entry level workers lacked soft skills, such as discipline, punctuality, perseverance, communication skills and analytical skills. They emphasised that while technical skills can be taught easily, training entry level workers in transferable skills was particularly challenging. This finding is

[19] Teachers and parents in Sorong repeatedly highlighted that adolescents in the region are vulnerable to substance abuse. This point was also mentioned by the representatives of a community group in Sorong that supports OOSC.

in contrast to the findings of an ILO (2016) report on employer and youth perspectives on the future of work, in which employer highlight the technical skills gaps that youth possess.

There are also some examples of employers playing a role as a channel for skills-building. For example, an oil and gas company in West Papua has an apprenticeship programme to train its participants as skilled technicians in the oil and gas sector. This opportunity is open to high school graduates and maximum D4 graduates, with an age range of between 16 and 30 years old. Similarly, a telecommunications company in Jakarta provides a two-year leadership development programme for university students across Indonesia under the company's corporate social responsibility programme. Their mission is to empower Indonesian future leaders with confidence, insight, and awareness to learn three core competencies: effective communication, entrepreneurship and innovation, and the ability to manage change. As part of the same initiative, the company also proposes holding two-day leadership camps to provide leadership training to high school students. Employers mentioned that introducing such initiatives in schools, with a focus on adolescents, would play a key role in making them employable in the future.

The internet (particularly online platforms such as YouTube, Vlogger, and Blogger) is an important channel through which young people obtain specific skills for employability and entrepreneurship. This includes learning coding and new programming languages or using online digital platforms. In addition, a range of other skills (such as painting, music, dance, and other hobbies) can be acquired through the internet. The use of the internet as a channel for skills acquisition is more common in Jakarta and Semarang and less common in Sorong. Limited access to computers and the internet and low connectivity are some key factors preventing people in Sorong from using the internet as a tool for skills acquisition.

4.5 What are the enablers, barriers, and bottlenecks that adolescent boys and girls face in acquiring these skills?

Digital technology can be both enabler and hindrance to skills acquisition. While there was consensus, across respondents, that digital skills are important skills that adolescents need to develop, there were differing views on whether technology is an enabler or a hindrance to skills acquisition. Adolescents across regions explained how the internet provides an important channel to learn new skills. They largely viewed digital technology in positive terms. Adolescents explained how they can hone their skills, particularly in creative areas such as music or dance using the internet. Adolescents in Jakarta were particularly interested in learning through gaming and virtual reality and were keen to use these skills to become successful entrepreneurs or software programmers.

While parents and teachers across regions claim to recognise the potential of technology as an enabler for skills acquisition, they repeatedly highlight its negative effects. Teachers particularly felt that the almost unlimited access to information brought by the internet makes it difficult for students and teachers to judge what information is accurate and what is not. Parents also felt that mobile phones and computers easily distract adolescents, making it difficult for them to focus on their studies. Parents and teachers were particularly concerned about the effects of unsupervised internet use on adolescents. Therefore, while adolescents themselves viewed technology as a positive enabler for skills acquisitions, parents and teachers seem to be wary of new technologies. These ideas are also discussed in Box 1 in the next chapter, which discusses digital skills as an important skill for the future.

Competition can be both an enabler and hindrance to skills acquisition. Adolescents mentioned that participating in competitions helps develop specific skills. Adolescents who participated in the study mentioned participating in a wide range of competitions in the area of sports, dance, music, theatre, and art. Winning competitions is often mentioned by

adolescents as evidence of their skills levels in these areas. Competition was therefore mentioned as an enabler in group discussions with adolescents who did not discuss the negative aspects of competition. While teachers and parents recognised the fact that competition can be a key enabler motivating adolescents to do their best, it can also act a hindrance and reduce their self-confidence, particularly when students face failure. Managing this balance between competition as a motivator and competition as a hindrance is a key challenge facing parents and teachers. Parents in Jakarta and Semarang also mentioned that competitions require a lot of preparation, which may distract students from completing their school coursework.

Lack of self-confidence/being afraid to take risks is a key hindrance to skills acquisition. Respondents across all three districts (both adolescent boys and girls) mentioned a lack of self-confidence as a major hurdle to acquiring new skills. Lack of self-confidence had different dimensions, including the fear of taking risks, the fear of failure, and the fear of giving up easily. These factors often prevent adolescents from learning new skills. As a result, adolescents across all three regions mentioned 'self-confidence' as a key skill they would like to develop to enable them to navigate the future successfully.

Lack of parental/family support (particularly for out-of-school adolescents) hinders adolescent girls and boys from acquiring new skills. While parental support was a major enabler for skills acquisition for adolescents in school, adolescents who were out-of-school repeatedly mentioned the lack of family support as a key factor preventing them from acquiring new skills and realising their potential. This finding came up during FGDs with OOSC in Semarang and Sorong, who mentioned that they were unable to get support or confide in their parents or family members and relied on their own peer networks and local community-based organisations for support.

Bullying and peer pressure prevent adolescents from acquiring new skills. These pressures also result in low self-esteem and low self-confidence among adolescents. Bullying and peer pressure were mentioned by adolescents and parents as a major hindrance to skills acquisition for adolescents across all three regions. Adolescents from vulnerable groups (such as those from economically disadvantaged backgrounds, adolescents with special needs, and out-of-school adolescents) were particularly vulnerable to bullying and peer pressure, which in some cases led to adolescents dropping out of school or succumbing to alcohol and drug abuse (according to parents and teachers in Semarang and Sorong).

4.6 What are the barriers and bottlenecks faced by actors and institutions (parents, teachers, governments) in providing skills to adolescents?

FGDs with parents, teachers, and government officials explored the various bottlenecks faced by these actors/institutions in providing skills to adolescents. Five major themes emerged across these discussions across all three fieldwork sites.

Financial constraints: Lack of financial support was an important factor that constrained adolescents from acquiring new skills across all three regions. This was particularly the case in Jakarta and Semarang, where acquiring IT skills required having laptops or computers at home, which not all families can afford. Similarly, participation in extracurricular activities also involved an additional cost that not all families could afford. In Sorong, finance was a major constraint preventing children from remaining in school. Interviews and FGDs revealed that, although school education is in theory free, parents incur a wide range of costs (e.g. on books and transportation) that make school education unaffordable to parents in Sorong. This leads adolescents to drop out of school early and search for employment

opportunities. While government officials agree that financial constraints are an important barrier to skills acquisition, they also highlight recent investments that have been made to ensure that education and skills training are inclusive. They specifically explain steps taken to provide free skills training in BLK institutions and to scale up apprenticeships to provide new employment pathways to adolescents and youth in Indonesia. These BLK institutions are, however, usually only available in provincial or district capitals.

Lack of access to credible information regarding what kinds of skills adolescents should acquire and where they can acquire these skills: A key challenge that parents and teachers mentioned was that there was a major information gap on what kinds of skills adolescents should acquire for the future, and how they should acquire these skills. They explained that while a lot of online learning opportunities were available, the credibility of these sources of training was not established. This made it difficult for parents to make choices on what kinds of skills their children should acquire and which channel of training would be the most appropriate to learn a new skill. Teachers too highlighted this information gap. They mentioned that while they were aware that adolescents will require a range of 21st Century Skills for the future, there were multiple sources and channels through which such skills are taught, and they were unable to judge which channels were the most appropriate for their students.

Limited training for teachers in 21st Century Skills and in teaching children with special needs: Teachers across all three regions mention that, while changes have been made to the course curriculum to include 21st Century Skills, they have not been trained on how to implement this new curriculum. As a result, it is left up to the individual teacher to cover these modules. In some cases, the teachers may not even cover this aspect. Teachers in Semarang also mentioned not being trained to teach children with special needs despite the inclusive nature of the education policy, which is specifically aimed to address children with special needs.

Changes in the curriculum have not led to changes in assessments or examination systems: Teachers, human resource managers, and representatives of recruitment agencies highlight that, even though Indonesia has undertaken curriculum reform and has integrated 21st Century Skills into the school curriculum, the pedagogy and assessment and examination systems have not yet undergone any change. As a result, the skills of adolescents continue to be assessed using traditional examination systems based on rote learning. A representative from the national government in Indonesia agreed that it is important to change the assessment systems and align them with twenty-first century skill requirements, but added that this process would be challenging and time-consuming.

Disconnect between the skills adolescents have and labour market requirements: An important theme that came up during the discussions with human resource managers, industry representatives, and recruitment agents was that there was a mismatch between the skills that adolescents acquire in school/training institutions and the requirements of the labour market. Representatives of manufacturing firms in Jakarta and Semarang mentioned that they often need to retrain workers who have undergone courses in BLKs or SMKs due to the outdated training content and curricula in these institutions. Employers and recruiters in Jakarta and Sorong also mention that the lack of soft skills and language skills (particularly English language skills) are some of the key factors inhibiting the employability of young Indonesians. Employers often use online digital training modules for upskilling and reskilling entry level workers. They repeatedly highlighted the lack of basic digital literacy (particularly among youth in remote regions such as Sorong) as a key factor that prevents youth from learning new skills on the job. These issues were also discussed with representatives of local and national governments, who highlighted that the government has recently put in place several initiatives to address these challenges. Government representatives discussed recent efforts to revamp the course content and curricula of SMKs (to include training in digital skills and transferable skills) and introduce workplace-based

training and apprenticeship programmes, as measures taken to overcome the above challenges.

4.7 Conclusion

Adolescents in Indonesia are currently acquiring a wide range of skills through a number of different channels. While formal institutions (particularly schools) have emerged as the primary channel for skills acquisition, the data also highlighted the important role that parents, teachers, employers, and government officials play in enabling adolescents to access a wide range of skills. These actors are key enablers for skills acquisition and act as role models and mentors for adolescents. Any intervention to enhance the skills that adolescents have must therefore focus on strengthening institutions and supporting key actors such as parents and teachers to help them maximise the potential of their wards.

Another important insight from the findings presented in this chapter is that location matters. Access to skills training opportunities varies depending on location. There are striking differences in the quality of schooling, school infrastructure, availability of skills training courses, and employment opportunities between well-connected cities and remote locations.

Well-connected regions such as Jakarta and Semarang, which enjoy a strong industry presence and a vibrant culture of enterprise, provide adolescents a wide range of options of skills to choose from. As a result, adolescents in these regions have more information with which to envision the future and make choices about the skills they need to achieve future goals. The economist Debraj Ray (2003) uses the term “aspirations window” to refer an individual’s cognitive world, which frames the choices and aspirations that people have. In regions like Jakarta and Semarang, which are centres of vibrant economic activity, adolescents have a wider “aspirations window” and multiple pathways to acquire and develop new skills. They also have role models and mentors, who can navigate them to make the right choices, to realise their aspirations.

In contrast, in remote regions like Sorong, with fewer economic opportunities and less informed parents and teachers, adolescents seem to have a far smaller “aspirations window”, providing them with a limited vision of the future and limited opportunities for them to develop their skills and maximise their potential. The limited opportunities in Sorong are exacerbated by hindrances such as limited access to information, poor digital connectivity, lack of mentorship and career guidance, as well as financial constraints, which further limit opportunities for adolescents to acquire new skills.

These barriers can be bridged through effective government interventions simultaneously focusing on strengthening institutions (at a regional level) and removing these barriers (by providing funds, information, and mentorship) to enable adolescents to access skills building opportunities. Recent initiatives such as the International Labour Organisation’s Education and Skills Training Project or the World Bank’s Life Skills for Education, Employability and Entrepreneurship (LSE3) Programme, are specifically designed to overcome these barriers. How can such interventions be scaled up even further? What kinds of skills should adolescents be equipped with to realise their potential?

Having provided an overview of what ‘skills’ are, the skills adolescents in Indonesia currently have, the channels through which they acquire these skills, and what hinders them from obtaining these skills, the next chapter delves into the theme of skills for the future.

5 Skills for the future: perspectives of different actors

This chapter focuses on the key skills adolescents will need for the future, bringing together the perspectives of adolescents, parents, teachers, government officials, and employers in Jakarta, Sorong, and Semarang districts of Indonesia. The material collected through fieldwork with adolescents in the three districts is also supplemented with data collected through the U-Report poll.

The chapter is organised into three key sections.

Section 5.1 begins by highlighting how key actors characterise the future.

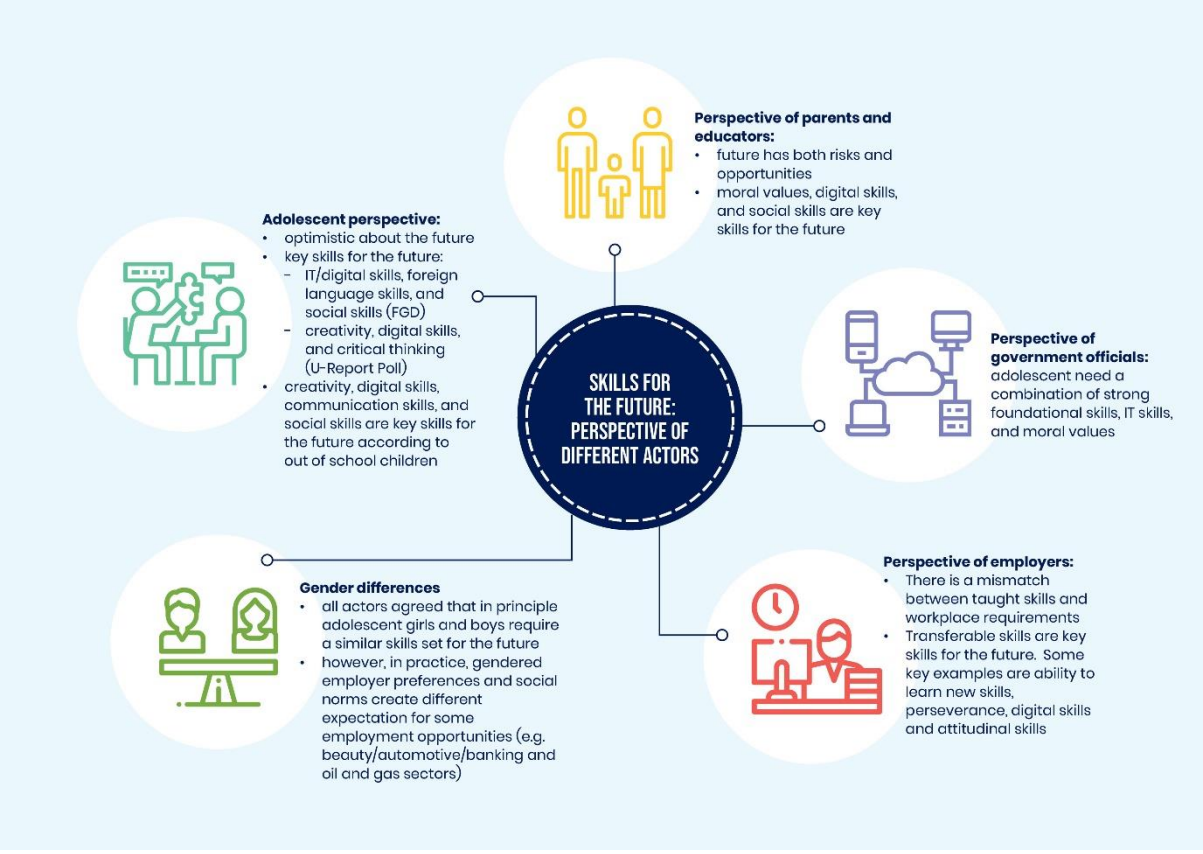
Section 5.2 discusses the key future aspirations of adolescents, drawing on material from FGDs. The aspirations of youth are also compared to the aspirations and expectations of their parents for them. This discussion on aspirations helps set the context for an exploration of the skills highlighted by various actors as being important for the future.

Section 5.3 focuses on the gender perspective on adolescent aspirations, career paths and skills needed for the future.

Section 5.4 explains the different kinds of skills adolescents will need for the future from the perspectives of different actors: adolescents, parents and teachers, employers and recruitment agents, and government officials.

The key findings from this chapter are summarised in the graphic below.

Figure 111. An overview of key findings on skills for the future



Source: OPML analysis

5.1 Perspectives on the future

How do adolescents, parents, teachers, employers, and government officials view the future?

A common theme that came up during group discussions was the idea that the future is characterised by rapid change and that new technologies will dominate how people work and interact. Different actors highlighted different aspects of the future. These perspectives help explain why certain kinds of skills are considered valuable. There was broad consensus that adolescents will need to have a combination of technical skills and attitudinal/social skills (such as adaptability, the ability to learn quickly, work hard, and persevere) to be able to navigate the future.

Adolescents across all three regions explained that the future will be dominated by technology, particularly IT. Adolescents described technology as a powerful tool for acquiring new skills or honing existing skills. Mastering technology was also considered essential for innovation and entrepreneurship. As a result, adolescents from all three fieldwork sites were taking steps to acquire digital skills. Parents and teachers agreed that technology would dominate the future but were concerned about the impact it would have on social life. Parents and teachers were therefore keen for adolescents to become familiar with new technology but felt they should also remain firmly grounded in social and religious values. While mastering technology was considered essential for the future, parents and teachers were also acutely aware of the risks posed by technology. Parents and teachers emphasised that adolescents need to have the skills to realise the promise of new technology and the values and judgement to use it wisely. This point is explained in further detail later in the chapter.

Adolescents across all three regions were broadly optimistic about the future. To them, the future represented “opportunity” and adolescents did not mention risks or fears associated with the future. Adolescents across all three regions were working hard to acquire skills and knowledge to meet future demands. This drive to learn new skills was observed across all three regions and was manifested in different ways. For instance, in Jakarta, adolescents provided examples of enrolling in digital skills courses or learning software coding (using online tools) as a way to prepare for the future. Adolescents in Jakarta used technology as a tool to support learning, to master the school curriculum, or to learn digital skills, with a view to becoming innovators and entrepreneurs. The success of platform technology companies such as Gojek has inspired adolescents in Jakarta to master digital technology.

In Semarang, adolescents who were creative and good at design were preparing to become entrepreneurs, using their personal and family networks to learn more about what it takes to start a business. The presence of a strong manufacturing hub in Semarang has also helped shape the aspirations of adolescents in the region. For example, when discussing future aspirations, adolescents in Semarang dreamed of setting up online platforms to sell products for export or of using digital technology to design new products.

In Sorong, there were limited technology-based employment opportunities. However, adolescents still highlighted that mastering digital technology, more specifically improving their knowledge of IT, is vital for the future. Every group discussion in Sorong included examples of adolescents who travelled long distances to learn basic IT skills. While the skills learned by adolescents in Sorong were not as advanced as the skills adolescents in Jakarta or Semarang aspired to learn, IT skills were still seen as a key skill for the future.

This idea that adolescents’ view of the future is largely optimistic and positive is also echoed in an ILO (2016) study on the future of work in the ASEAN region.

Parents and teachers had a mixed view of the future. They explained that the future brought new opportunities but could also be characterised by risks and shocks. Respondents explained that the future signified new opportunities and career pathways that had not been open possible before but they believed these opportunities were characterised by uncertainty and risk, which adolescents need to be able to manage effectively. These risks could be financial (such as job loss or financial shocks), health-related, or environmental (such as natural disasters). Parents and teachers emphasised that 'strong moral values' will be an important skill for adolescents to acquire for the future, as they believed it would help them cope effectively with shocks and risks. Parents and teachers across all three regions explained that value-oriented skills combined with strong foundational and technical skills would enable adolescents to grow up into successful adults. Some parents also mentioned that "adaptability to change" was an important skill adolescents must have to become successful in the future.

Employers and recruitment agents defined the future in terms of new kinds of employment opportunities coming up in Indonesia as a result of technological change. They also highlighted that the mismatch between the skills young people possess and the skills that are in demand is a key risk employers face. All the employers who participated in the study mentioned that their companies were expanding. They were hiring workers at all levels and exploring setting up operations overseas. In Semarang, employers were producing goods for overseas markets and establishing international collaborations. Employers and recruitment agents talked about a vibrant entrepreneurship ecosystem in Jakarta and Semarang. The success of Indonesian start-ups in becoming 'unicorns' was often cited by respondents as evidence of this. However, a major risk mentioned by employers is the gap between the skills taught in educational institutions and the skills required in the workplace. Employers and recruitment agents cautioned that if adolescents are not skilled to adapt to a rapidly changing workplace, unemployment could be a key risk.

Recruitment agents explained that technological change will make some job roles redundant, but they believe that more jobs will be created in the future rather than fewer. Recruiters emphasised that there will be a mismatch between the skills people have and the skills required by industry in the future. Skills training at a high-quality, industry-recognised standard was seen as vital to help bridge this skills gap. Recruiters also mentioned severe talent shortages in senior leadership positions within large corporations in Indonesia. These positions are currently being filled by expats and workers from overseas. Recruitment agents believe there is enormous potential to fill these job roles with Indonesian employees if educational institutions provide the right kind of training and mentorship opportunities. According to recruiters, providing adolescents with a combination of technical skills, language skills, and leadership training is essential to create a new generation of business leaders in Indonesia. These ideas are also echoed in the report of the ILO's *Global Commission on the Future of Work* (ILO, 2019), which emphasises the need to equip young people with multidimensional skill sets and opportunities for continuous learning, as a way for young people to remain employable in the future.

Government officials shared the optimism about new opportunities in the future, but the inequality of opportunity in Indonesia was a major concern. There was broad consensus among government officials at the national and local levels that the future offers new opportunities for adolescents and youth in Indonesia. However, they emphasised that these opportunities are unevenly distributed. While some pockets of the country had vibrant start-up ecosystems and high-tech manufacturing firms gearing up for Industry 4.0, a large part of the country (particularly the rural areas) are untouched by these changes. How can youth in remote areas also be prepared to drive growth and development in Indonesia? What can the government do to cater to the demands of new industry while simultaneously revitalising the agriculture sector? These were some of the key questions that government officials believe need to be answered.

A majority of respondents across regions mentioned that they did not see the need to develop an entirely new set of skills for adolescents for the future. Rather, they emphasised the urgent need to develop existing skill sets further so that adolescents can achieve higher competencies in the skills they already have. For example, communication skills, language skills, and digital skills were mentioned as three areas where adolescents already have some basic skills. However, respondents across regions explained that there is little emphasis on how to apply these skills to real-world situations such as negotiating a contract, writing a curriculum vitae, or answering questions in an interview. This point was mentioned by human resource managers and recruitment agents as a key skills gap that adolescents have when they enter the job market. The idea that adolescents need to take the initiative to look beyond existing institutions and acquire these skills through paid courses, internships, the internet or through peers was also mentioned during the discussion. Similarly, parents, teachers, and government officials explained the importance of building on the basic character education training provided in schools to enable adolescents to make better decisions and choices about the future.

The text box below discusses the theme of digital skills in detail. Respondents often characterised the future as a "digital era". 'Digital skills' emerged as a common theme and as a key skill for the future across all three fieldwork sites. The text box explores the different dimensions of digital skills that came up during group discussions. It also explores how parents and teachers engage with these skills.

Box 1: Preparing for a digital era: digital skills for the future

> "Now it's a gadget era, so we need to be able to operate gadgets. Everything will be digital in the future. Will we even have cell phone in 2030?" (Madrasah Aliyah (MA) teacher, female, Jakarta)
>
> "We are now in the digital era. We're facing the nano era in the future. All data will be stored online, so the kids must master this kind of skill." (SMP teacher, female, Jakarta)

The idea that the world of the future will be a digital one came up repeatedly during FGDs with adolescents, parents, teachers, employers, and government officials. Acquiring digital skills was mentioned as a primary skill adolescents will need for the future. While the term "digital skills" was used repeatedly across districts, the meaning of the term varied from region to region. For example, in Jakarta and Semarang, both parents and adolescents had a very clear idea of the specific kinds of digital skill they wanted to acquire. This included coding and learning new programming languages (with a view to developing new apps) and learning how to upload videos and search for information online. Parents and teachers also agreed that these were important skills for young people to have. In contrast, in Sorong, while parents, teachers, and adolescents highlighted the importance of digital skills, they used this term to refer to "using a computer", "typing fast", and "searching the internet". Therefore, their focus was primarily on basic digital literacy.

Adolescents were positive about learning digital skills and using technology. Students particularly mentioned how the internet helps them find answers to questions. For example, one SMA student from Semarang explained:

> "If you don't know something, just search on the internet, on YouTube. I used to ask my brother; now I can find my own information." (SMA student, male, Semarang)

This quotation also highlights the sense of personal empowerment and independence that technology can provide in opening-up access to information for adolescents.

Box 1: Preparing for a digital era: digital skills for the future

Another student from Jakarta said:

> "I need to know how to use a computer in addition to studying hard. I need to know what's good and bad about operating a computer and about the computer network at this school. It's important because now it's the technology era. At the minimum, we should be able to operate MS Word, Excel, and Power Point." (SMK student, male, Jakarta)

Based on our observations, schools in both Jakarta and Semarang had IT devices in the classroom. Most classrooms that the field team visited in urban Jakarta were equipped with projectors. In all regions, students mentioned using online resources to look for learning materials or to complete school assignments. This was also confirmed by teachers. A vice principal at a school in Jakarta explained the benefits of using technology as a teaching aid:

> Until now, we have taught IT to students and teachers. For teachers, around 90 per cent have been able to use IT devices when teaching in class. For example, the teacher gives an explanation in the class and uses IT facilities such as laptops or projectors. In giving assignments, teachers also encourage students to look for information for group and individual assignments, not only in books but also on the internet. During group assignments, it is possible to train students in other skills, for example leadership attitudes, group management, communication skills, and independence. (SMP Teacher, male, Jakarta)

Teachers used technology as an aid to develop IT skills and other skills that they feel are important for adolescents, such as curiosity, critical thinking, and analysis. Interviews with teachers revealed that, while digital technology is a useful teaching aid, it also comes with challenges. For example, teachers explained that a major challenge arising from the internet is that, although it offers a vast amount of information for learning, students and teachers are unable to check which sources of information are accurate. Teachers also complained about the limited training they have had on using digital technologies. They sometimes feel that students are better equipped with these skills than they are.

Some parents regretted their own inability to understand and use technology and referred to themselves as *gaptek* (a local term used for the technologically challenged). They explained that they wanted to make sure their children have these skills.

Parents were keen that their children should be digitally literate and have invested in computers at home to ensure that that their children learn to use technology from a young age. However, not all parents can afford this. In these cases, schools often form study groups so that children can share computers. In some cases, parents in Jakarta and Semarang mentioned borrowing laptops or computers from their relatives so that their children can be exposed to technology early and are well prepared for the digital world of the future.

Respondents across regions thus had similar views about the future, characterising it in terms of rapid change, digital technology, new opportunities, and risks. What are the future aspirations of adolescents in Indonesia? What kinds of skills do adolescents need to realise their future aspirations?

5.2 Adolescent aspirations in Indonesia

The anthropologist Arjun Appadurai (2004) makes two key points which are relevant for this study on skills for the future. First, he describes aspiration as a "navigational capacity", which determines the choices that individuals make about the future. Second, he mentions aspirations emerge in a social context and an individual's "capacity to aspire" is shaped by the social environment in which they belong. For example, Appadurai argues that young people who are from socially disadvantaged groups, with limited access to role models, tend to have lower aspirations and expectations of the future, compared to those who have had the privilege of being exposed to mentors and role models. Youth from the latter group tend not only to aspire high, they also tend to have the navigational tools needed (through social networks and mentors) to realise their aspirations. Therefore, in this study, we began the focus group discussions with adolescents in each of the three regions, with a discussion on their future aspirations and their perspectives on the future.

During group discussions, the field team used the term "aspiration" in a broad sense to understand the adolescents' future goals for their personal and professional lives. During the discussions, adolescents typically discussed professional aspirations; only in response to further probing did adolescents speak of their personal aspirations, which included getting married, having a family and supporting their parents.

Different categories of adolescents participated in FGDs in Jakarta, Semarang and Sorong. These included adolescents in school, out-of-school adolescents (to whom we reached out particularly in Sorong and Semarang), and adolescents with special needs. This section documents the perspectives of these different groups of adolescents. In some cases, we also tried and triangulate adolescent responses with the responses of parents and teachers to provide a holistic view of specific cross-cutting issues.

There were diverse responses from adolescents across regions on their future aspirations, with responses falling into five broad categories.

- **Becoming an entrepreneur**: The first most common aspiration mentioned by adolescents in Jakarta and Semarang was to be an entrepreneur in new sectors such as the creative industries, music or IT. However, while the term "entrepreneur" was used by respondents in all three regions, the term had a distinct meaning in each context.

  In Jakarta and Semarang, entrepreneurship is seen as an active career choice. Adolescents aimed to open new businesses in high technology sectors or in the creative industries. For example, in Semarang, adolescents with artistic abilities sought work as fashion designers in the garment industry or as wood carvers in the handicrafts sector. Some adolescents who aspired to be entrepreneurs in these sectors also mentioned that they wanted to sell products through online digital platforms or even export products overseas. Entrepreneurship was viewed as an aspirational career choice in these regions with parents and teachers encouraging adolescents to take it up.

  In Sorong, the term "entrepreneurship" was used less frequently and was used to refer to opening a shop selling goods, setting up a home tailoring unit, or weaving *noken* (traditional woven bags). In Sorong, entrepreneurship was not viewed as an active career choice, but as a fallback option that people resort to out of necessity.

- **Becoming professionals:** The second category of responses from adolescents focused on more traditional professional job roles, such as being a doctor (or surgeon/plastic surgeon), an ambassador, an architect, a chief executive officer (CEO), a teacher or a civil servant. This was one of the top aspirations that parents had for their children, and such responses were particularly found in Jakarta and Semarang, with very few respondents mentioning this category in Sorong. Adolescents undergoing vocational

training in Semarang considered jobs in manufacturing in Semarang's industrial clusters as "professional" and sought to work in private companies in the region.

- **Becoming a sportsperson:** The third category of responses related to becoming a sportsperson. Some adolescent respondents across all three regions were engaged in sports as extracurricular activities in school and sought to make a career out of this. This option was mentioned more by adolescent males than adolescent females but in Jakarta and Semarang there were examples of adolescent girls training in sports. While a number of adolescents mentioned becoming a sportsperson as a key aspiration for their future, very few parents aspired for their children to take up sports as a profession.
- **Obtaining a government job:** Young people across all regions aspired for government jobs. This included jobs as a teacher, a nurse or joining the military forces/police academy. In Jakarta, adolescents mentioned the aspiration of achieving a senior government position (for example as an ambassador or senior civil servant) and highlighted the prestige of working in the government. In Semarang and Sorong, the category of 'government jobs' included a wide range of positions ranging from jobs in the civil service to becoming teachers in government schools. Parents across all three regions echoed similar aspirations for their children and highlighted the security, stability, and prestige of government jobs.
- **Realising family expectations:** Adolescents across regions mentioned that they were keen to realise their family's expectations of them. This included taking care of their parents and realising parents' expectations, supporting their families, getting married, having a family and making their country proud.[20] These aspirations were mentioned by both adolescent males and females. During group discussions, the field team sought to probe deeper into these expectations and understand what skills that adolescents believed they would require to fulfil these goals, but adolescents across all three regions were unable to expand on this point.

Role models (particularly parents or family members) influence the aspiration of adolescents, and they often try to emulate these role models to achieve their goals. This was particularly evident in the examples used by young people who sought to become entrepreneurs. For example, a young SMP student in Jakarta whose father was an entrepreneur explained that he had become inspired to follow his father's footsteps and become an entrepreneur himself.

> My father used to buy used goods to modify motorcycles. Some of his materials were not used. I thought I should make something from them. Kids love unique toys, so I started making toys with these pieces of metal, using glue. They looked like metal miniatures. I sold these and got Rp500,000. My dad used to be an entrepreneur. He has lots of books about making sales. I read his books, but the idea to sell came from myself, to make use of unused items at home. I just asked Daddy if I could do this and he gave me his permission.

Another SMA student explained how he would like to establish a career in the music industry and how he acquired the skills to do so:

> I have liked music since elementary school. When I was in third grade, I tried to understand different kinds of musical genres. I took a piano course when I was in kindergarten and started making my own music when I entered the SMP. I taught myself these skills by using some applications like Garage Band, FL Studio, and Appleton. It was difficult in the beginning, but I know that I can make it.

[20] During FGDs, adolescents spoke more about their professional aspirations than their personal aspirations. This could be because they were more comfortable speaking to the research team on this topic. To discuss some of the personal aspirations of the adolescents in more detail with the field team, more time in the field would be required to develop trust and a strong rapport with respondents.

Responses like the ones above highlight how individual initiative, drive, creativity, and encouragement at homerefine the skills that young people have and shape their future aspirations.

While adolescents of all age groups were aware of a wide range of professions they could aspire to, not all of them were able to understand what skills were needed to obtain these jobs. Typically, adolescents over 15 years old and those who were enrolled in SMKs or BLKs were able to explain the kinds of skill needed to obtain specific jobs. Overall, it appeared that only a small proportion of adolescents had clear ideas about their career choices. Their time was primarily spent on academic work and extracurricular activities, and many of them mentioned that they struggled to balance both.

Throughout the discussions about current achievements and future aspirations, adolescents in Sorong repeatedly mentioned that they aspired to earn money to support their families. This was the case both for adolescents who were in school and for out-of-school adolescents in Sorong. Adolescents in Jakarta and Semarang, and often adolescents in Sorong, provided different examples through which they made money or aspired to do so. These included “working on a farm and saving money”, “taking an additional job”, and “selling goods at market”. Some of the responses from adolescents in Sorong on their aspirations and achievements are given below:

> “I can be a farmer and get my own money. This can help my parents. I can also save some money for the future.” (SMK student, male, Sorong)

> “When I arrived in Sorong, we didn’t have a home and we lived in a rented room. My dad said he wanted to build a house so he asked me to help him buy the materials, carry them and build the house. To achieve this, we needed to be strong, because we needed to help carry the wood.” (SMP student, female, Sorong)

> “When I was in elementary school, I helped my brother build a house in my district. I got some money and saved it. When I enrolled in junior high school, I used that money.” (SMP student, male, Sorong)

Out-of-school adolescents across regions aspired for stable jobs and steady incomes. They explained that financial shocks at home, fighting or bullying in school, or the inability to fulfil academic requirements were some of the key reasons why they left school. Unlike adolescents in school, OOSC are exposed to the world of work at an early stage. They often work part-time and continue their education through equivalency education programmes which could enable them to transition back into the formal education system, if they choose to do so. They explained that hard work, initiative, and having networks and social connections were important for making progress in their careers and remaining employed.

An important theme that comes up when discussing aspirations with out-of-school adolescents is the desire to become an entrepreneur. They highlighted “the ability to take risks”, “knowledge of finance”, “determination” and “hard work” as important skills they will need to be successful. The term “entrepreneur” was used by out-of-school adolescents to refer to starting a new business or selling goods. Some of the respondents also highlighted that they already juggle managing a job with continuing non-formal education or training and believe that managing these different demands will enable them to be successful entrepreneurs.

Out-of-school adolescents who were enrolled in private training centres and in non-formal education had different aspirations compared to those who did not enrol in any institution

(this category included mostly street children). For example, out-of-school adolescents enrolled in training institutions expressed a strong desire to work in manufacturing companies, particularly in garment, furniture and construction materials companies. They were focused on developing employability-oriented skills and highlighted the importance of these skills for the future. Those who were not enrolled in any program pursued creative interests and art and aspired to be entrepreneurs.

Adolescents with special needs across regions were keen to acquire foundational skills and transferable skills. Communication skills were considered one of the most important skills that adolescents in this category sought to possess. However, bullying is a major challenge faced by adolescents in this group. This is a major factor hindering their ability to acquire new skills. The skills requirements for adolescents with special needs was a focus of discussion in Semarang, which is known for implementing an inclusive education policy. Some insights from the discussions with adolescents with special needs were triangulated with the perspectives of parents and teachers in Semarang in the text box below.

Box 2: Skills requirements for adolescents with special needs in Semarang

Semarang is one of the cities implementing an inclusive education policy based on Ministerial Regulations Nos. 30 and 154. This policy provides support to children with special needs who are enrolled in a regular school. Semarang has published rules and regulations about inclusive education for all education levels (in formal schools). These regulations specify details about how to manage inclusive schools, how to treat children with special needs based on their requirements, how to assess children with special needs, and how to train them to acquire new skills.

Adolescents who are hearing impaired in Semarang mentioned that the key skills they would like to acquire included sign language and “alternative communication skills” such as lip reading; key skills they would need for the future. They emphasised that these skills would enable them to communicate and interact with a wide range of people, which was important to them. Adolescents in this group also mentioned the importance of basic literacy and numeracy skills, which they believed would enable them to be independent and earn a living.

Bullying was identified by both adolescents, parents and teachers as a major hindrance lowering an adolescent’s self-esteem and self-confidence, preventing them from learning new skills.

Parents and representatives of community groups who work with adolescents with special needs (including adolescents with learning disabilities) mentioned that confidence, craft skills, and communication skills are some of the key skills adolescents need for the future. Parents note that boosting the self-confidence of adolescents with special needs is very important so that they can socialise with everyone. This will enable adolescents in this group to feel socially connected and prevent them from experiencing a feeling of social isolation or low self-esteem. Parents were particularly keen to nurture their children’s interests and talents so that they acquire self-confidence and realise their potential. Some parents provided examples of how they taught their children crafts and were keen that their children should sell these products to earn a living and become financially independent.

Parents acknowledged that special needs children face diverse challenges and that parents find it difficult to find schools which are the ‘right fit’ for their child. The onus is largely on parents for enabling their children to learn and acquire new skills. A mother explained:

Box 2: Skills requirements for adolescents with special needs in Semarang

> Sometimes parents do not want to put their children in regular school because they're afraid their children won't be able to keep up. So, the most important thing for children with special needs is to have supportive parents. They need not be ashamed of their kids. They need to let their kids socialise with everyone. There needs to be good communication between parents and children.

Parents were keen for their children with special needs to learn new skills, as they believed such skills would enable their children to remain connected with others and become financially independent and self-confident.

5.3 Gender and skills for the future

While male and female respondents (across all groups who participated in the study) said that men and women are equal in principle, there were clear gender stereotypes which shaped their expectations of men and women and adolescent boys and girls. For example, parents and teachers repeatedly highlighted the point that boys and girls should get equal opportunities. However, they mentioned that the expectations that society has of boys and girls were different. As a result, they believed that the responsibility for earning a living still rests with men, while women will remain responsible for running a household. Employers too expressed certain gender preferences for specific job roles. For example, women were preferred for client-facing sales and marketing job roles or for work in the beauty and wellness sector, while men were preferred to work in the manufacturing sector or in the oil and gas industry.

FGDs also covered the theme of gender and aspirations. Adolescent boys and girls stated that both boys and girls have the equal freedom to choose careers and that there were no differences in the skills adolescents felt were important for the future according to gender**.** However, older adolescents and those who were enrolled in SMK (particularly in Semarang) mentioned that employment opportunities were often gendered and that employers often prefer to hire women for sales, marketing, and customer relations jobs, while men are preferred in the manufacturing sector. Male and female adolescents under 15 years of age had similar aspirations, and gender differences did not come up in their responses. Interestingly, when the question of gender differences in employment opportunities was posed to parents and teachers, they emphasised that, while in principle men and women must have equal opportunities, men must get better employment opportunities as the burden of financially looking after their families falls on them. Similarly, they also mentioned that women must have flexible employment opportunities to be able to successfully manage their homes, families and professional duties.

Younger adolescent girls and boys (under 15 years of age) believed that boys and girls will need similar skill sets for the future. However, older adolescents (above the age of 15) and those in vocational schools seemed guided by gendered employment practices, which determined the courses that they chose to pursue in vocational schools. For example, adolescent girls enrolled in an SMK in Semarang mentioned that they did not even consider enrolling for a course in mechanics as men are preferred to work as mechanics, as they are physically stronger than women.

The text box below summarises some of the key findings on gender, aspirations and skills for the future from the perspectives of different actors. It is important to note that the discussions on the theme of gender and skills for the future focused largely on the theme of employability skills. This was not intentional. Even though the field team tried to discuss

gender influences, personal aspirations and choices, respondents typically shared their views on employability and the professional aspects of their lives with the team[21].

Box 3: Gender, aspirations, and skills for the future: perspectives of different actors

Parents, teachers, and government officials in three districts/cities agreed that, while education should not be limited by it, gender does influence career choices. As a teacher in Jakarta said:

> "There is not much difference today between men and women in terms of access to education. Now we are equal, everyone wants to go to school. However, selecting jobs may be different between men and women." (SMP teacher, female, Jakarta)

In a vocational school in Jakarta, all parents mentioned that they would like their children to have a better future by surpassing the education levels of their parents. They said they believed that adolescents in school (both boys and girls) would need the same set of skills for the future. However, the group's views on the roles played by adult men and women in society were influenced by gender stereotypes. A mother said:

> *"*Men have to have a high educational level because he is responsible for his family. If she has money, a woman can also go to college". (SMK parent, female, Jakarta)

Another mother disagreed with this view:

> "No, I strongly agree that women should go to college and have an education". (SMK Parent, female, Jakarta)

Parents whose children attended an Islamic school in Jakarta justified different gender roles on religious grounds. One male parent said:

> "In my opinion, we still need to follow religion, where men are leaders. For a woman, even if she works, it is also important that she should still be a good housewife and educate her children well. But the basic principle is that men and women are the same." (MA parent, male, Jakarta)

Adolescent girls and boys in secondary school tended to mention similar kinds of skills as being important for the future. Parents and teachers also did not differentiate between the skills boys and girls needed for the future. In fact, in Jakarta, parents mentioned that they would like boys to learn new skills like cooking and girls to learn mechanics, indicating that it is important for boys and girls to break stereotypes. Yet, when prompted further, parents agreed that gender roles do influence career and life choices and they were keen that men and women should fulfil the expectations of society. This included men being able to take care of their families and women getting married before the age of 30[22] and prioritising their families. A group discussion in Sorong revealed that child marriage (of girls under the age of 18) is a common practice in some communities and this is one of the reasons why adolescent girls drop out of school in Sorong.

[21] This could be because respondents were not comfortable discussing these topics with the field team as they were meeting the field researchers for the first time. Often details on personal choices and aspirations are better understood through long-term ethnographic studies.

[22] The age of 30 is seen as a key milestone within Indonesian society, coming with a series of expectations such as getting married, having a house, and getting a good job.

Box 3: Gender, aspirations, and skills for the future: perspectives of different actors

A few vocational school students in Semarang believe that gender plays a role in the courses students choose in vocational schools:

> "Gender determines the courses we choose in vocational schools. For example, automotive or engineering courses, need physical strength. Girls are physically weaker than boys, so more boys are selected to enrol in those courses." (Private training centre, female student)

In Semarang, some students indicated that military jobs are not suitable for women because they are not physically strong, but some female students in the group disagreed and mentioned that women "have more intelligence" and are "balanced" so they can compete in the military. Students mentioned that they were aware of a common society view that women, especially wives, should stay at home and are not expected to be leaders.

Training providers state that female participants typically choose courses in fashion, business services, customer services and accounting, while male participants usually enrol in mechanics or automotive courses. There are some exceptions to this typical gender-based enrolment but the percentage is very low, according to training providers. Computer or IT-related courses have the same proportion of male and female participants. In Semarang, we found a relatively balanced proportion of male and female participants in a sewing training programme under a state training provider specialising in garment manufacturing. However, employers in Semarang indicated that women generally prefer to work in this sector, which is one of the big labour-intensive sectors in the district.

Employers in three districts/cities shared their gender preferences for different kinds of jobs. They said that jobs needing more physical strength are considered unsuitable for women. They explained that, in practice, men work in the production department of manufacturing firms, while women mostly work in areas such as sales and marketing. However, a few female students stated gender should not limit the kinds of jobs men and women aspire to.

Gender preferences for jobs also exist in Sorong. Employers in the oil and gas sector typically hire male employees and explain that this choice is made to avoid the harassment of women in a tough working environment. According to respondents, employers in the banking sector prefer to hire female employees for customer service or business service activities, as they believe women have better interpersonal skills in dealing with clients.[23]

> "The core business of a bank is to attract clients or customers to invest. Therefore, we prefer to hire women for this. Overall, however, we also hire talent with a good network of connections, for example, if they have a relative who works in local government or another corporation. (Employer, female, Sorong)

[23] There are a number of studies on gender stereotyping in job roles, see for example Miller and Hayward (2006). A key finding of this study, which was conducted in the UK showed that both boys and girls perceived the majority of the jobs as being gender-segregated. While girls perceived jobs as being more gender-segregated than boys, boys stereotyped jobs more than did girls. Both males and females preferred jobs that they saw as stereotypically gender-appropriate and dominated by their own sex. However, for females, this association between job preference and perceived stereotyping/segregation decreased with age, while for males, it remained constant across the age groups. Similarly, a study by Ramacci et al (2017) also studies the issue of gender stereotyping in job roles.

5.4 Perspectives of adolescents on the skills they need for the future.

A common theme that came up repeatedly during FGDs was the idea that adolescents will need a combination of skills to be able to navigate the future successfully. The top five skill sets that adolescents highlighted during FGDs are summarised below.

1. **Digital skills and IT skills:** The terms 'IT skills' and 'digital skills' had different connotations in different regions. In Jakarta and Semarang, the terms were used by adolescents to refer specifically to learning programming languages, developing apps, learning web design, learning coding, or running e-commerce platforms online. In Sorong, the term 'IT skills' was used to refer to basic computer literacy or typing skills, and adolescents and parents also complained about the limited IT infrastructure available in schools. Both adolescent boys and girls mentioned that while they have basic digital skills they would like to enhance these skills further. They also mentioned that the digital skills taught at school were basic, and hence enrolled in private training courses or online courses to acquire digital skills. An important point mentioned by adolescents is that digital skills were considered a distinct skill set. At the same time, adolescents also mentioned that digital skills were important enablers which help acquire and learn new skills.

2. **Communication skills:** While communication skills were mentioned by adolescents as skills they currently had, respondents emphasised that these were also important to develop further. Two specific aspects of communication skills that adolescents particularly wanted to improve included written communication skills and public speaking. Adolescents in FGDs often referred to communication skills as "the ability to speak". On further prompting, it appeared that this not only referred to the skills mentioned above, but also to the ability to speak up and express opinions freely. This could be classified as a skill for personal empowerment in UNICEF's upcoming Global Framework. Adolescents across all three regions believed that good communication skills were an essential skill for the future. During discussions, they highlighted that these skills could be useful in their professional and personal lives. Adolescents who were hearing impaired emphasised the importance of communication skills for the future. There were keen to learn sign language and alternative communication skills (for example, how to read lip movements) as well as basic numeracy and literacy; and mentioned these as some of the key skills they would need for the future. Adolescents in this group were particularly keen to be able to communicate outside their own group.

3. **Social skills or interpersonal skills (*kemampuan bersosialisasi*):** Adolescents regularly expressed the importance of "getting along with others", and they believed this was an important skill that they needed to work on. Some young people also spoke of the bullying or fighting between students and explained that good interpersonal skills were important to avoid such situations. Others highlighted how "getting along with others" and "putting others' happiness first" were important qualities adolescents must have. Other aspects of interpersonal skills mentioned by adolescents during group discussions included respect and tolerance, which are also core values at the heart of a character-building education programme offered in schools.

4. **Foreign language skills:** Adolescents across all three regions emphasised the importance of learning foreign languages, particularly English. Many adolescents expressed the desire to be able to speak with foreigners and chose to acquire language skills to be able to do so. Adolescents also gave examples of how they tried to acquire language skills by using the internet or by conversing with friends or family members to learn English and other languages such as Arabic, Korean, Japanese, and Mandarin. Social media, television and the internet were important channels through which adolescents acquire these skills informally. However, adolescents mentioned that they

would like to acquire these skills in a formal way so that they might become proficient in different languages. Knowledge of a foreign language was viewed by adolescents not only as a skill which enhances employability, but also as a skill for personal empowerment.

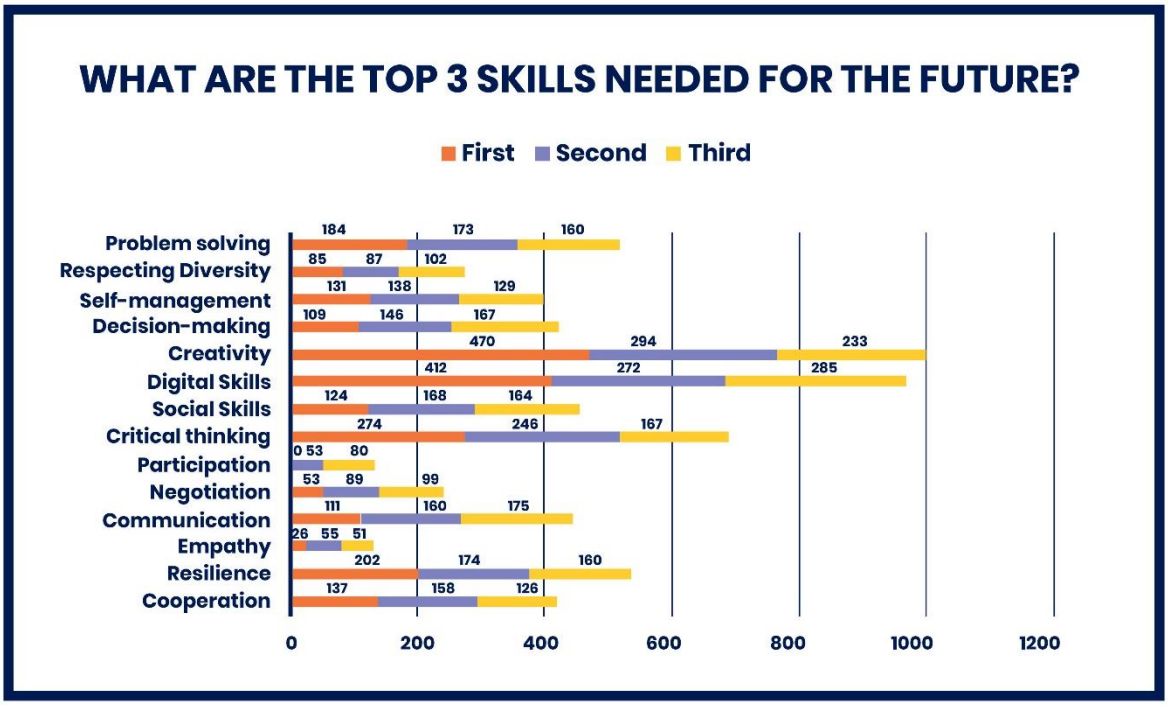
5. **Attitudinal skills:** An important theme that came up during group discussions was the idea that attitudes or values help facilitate learning and skills acquisition. In Jakarta, this included self-confidence, motivation, curiosity, social skills and persistence. In Semarang, adolescents mentioned commitment, responsibility, patience, discipline and cooperation/teamwork as some of the key attitudinal skills they would need. A small minority of adolescents mentioned politeness and ethics as important skills for the future. In Sorong, hard work, diligence, and persistence were the key attitudinal skills highlighted by adolescents.

Out-of-school adolescents mentioned creativity, digital skills, communication skills, and social skills as key skills needed for the future. Some adolescents in Semarang also mentioned that they wanted to learn how to save and manage money and finances, as this was seen as being an important skill for entrepreneurship.

It is interesting to note that, when asked what skills were important for the future, adolescents did not mention foundational skills such as literacy or numeracy or technical/job-specific skills. Rather, most key responses came under the category of 'transferable skills' in UNICEF's upcoming Global Framework. For example, although digital skills are considered by UNICEF to be separate to transferrable skills, digital skills such as learning to use computer software can be categorised as a 'skill for learning'. When applied to the context of writing a technical report or a job application, this equally becomes a 'skill for employability'. The same skill set becomes a skill for 'personal empowerment' and a 'skill for active citizenship' when used to articulate an opinion or communicate information about a social cause. Therefore, it is vital to see these skill sets as part of a complex network of skills which interact, rather than as standalone skills.

Adolescents who participated in the U-Report poll felt that creativity was the most important skill needed for the future. Creativity also came up as an important skill in the FGD, but the U-Report poll listed it as the top skill adolescents believe they will require. After creativity, adolescents identified digital skills as the second most important skill, and critical thinking as the third most important skill, needed for the future. Male respondents rated digital skills top, while female respondents rated creativity top, but both agreed that critical thinking was the third most important skill needed for the future. Adolescents identified, in order, empathy, participation and negotiation as the least important skills needed for the future. Both empathy and negotiation were skills they also felt they least possessed (along with digital skills). Although no further probing was made, it appears that either adolescents do not perceive empathy and negotiation to be of particular importance for the future (at least comparatively), or they feel they are already linked with other skills. Both male and female adolescents appear to agree with this assessment, as shown in Figure 12.

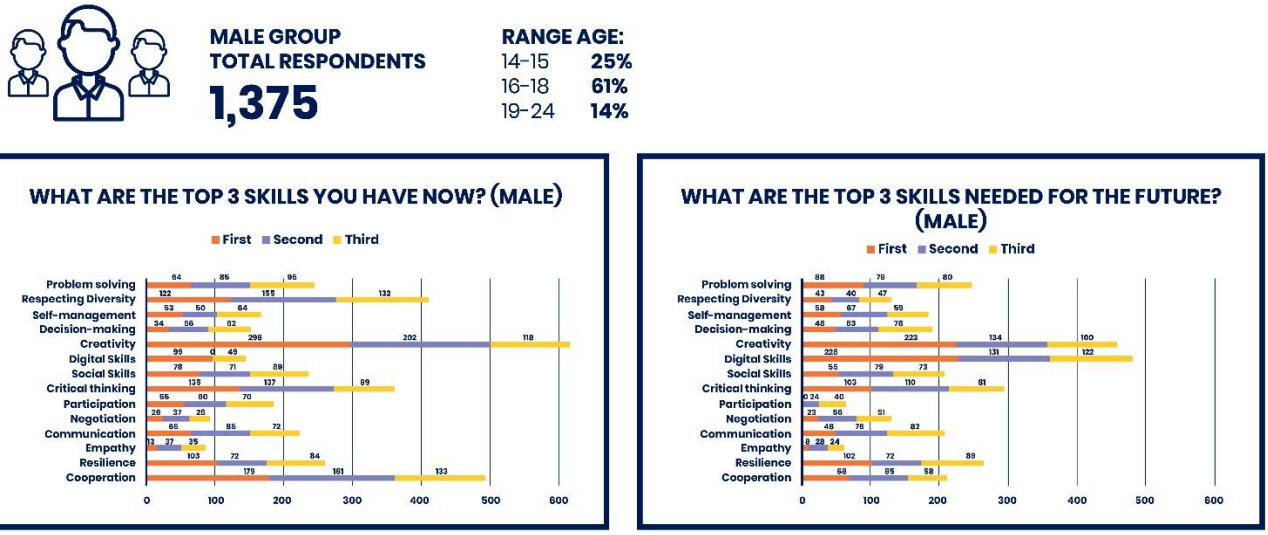
Figure 12. What are the top three skills needed for the future?



Source: UNICEF (2019) U-Report poll data

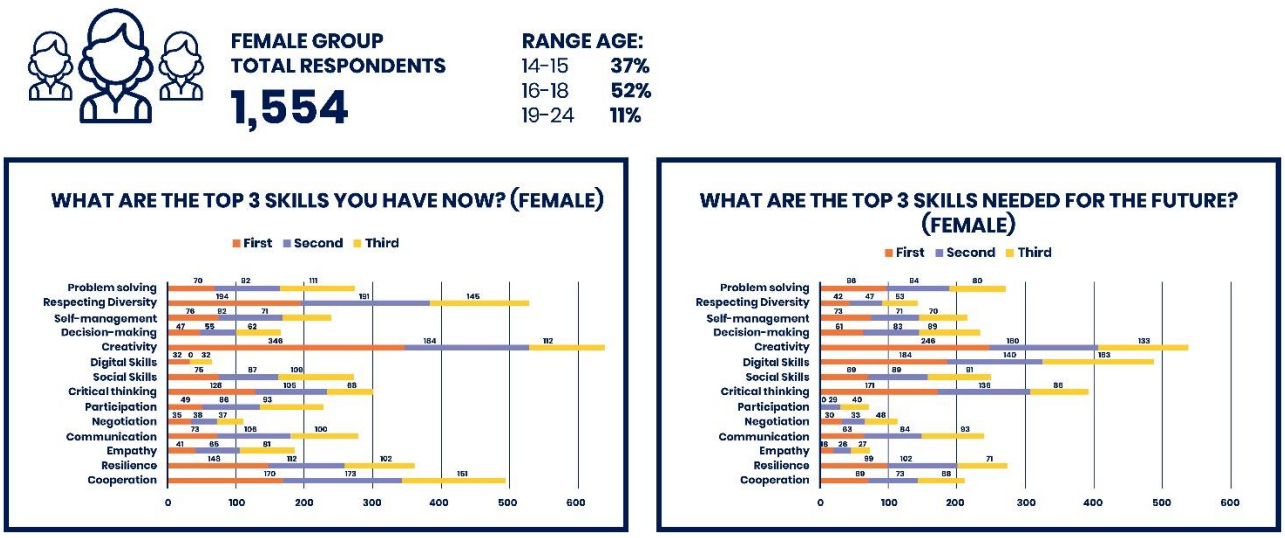
Figures 13 and 14 in the following page highlight the top three skills adolescent boys and girls believe they will need for the future.

Figure 13. Top skills by gender (male)



Source: UNICEF (2019) U-Report poll data

Figure 12. Top skills by gender (female)



Source: UNICEF (2019) U-Report poll data

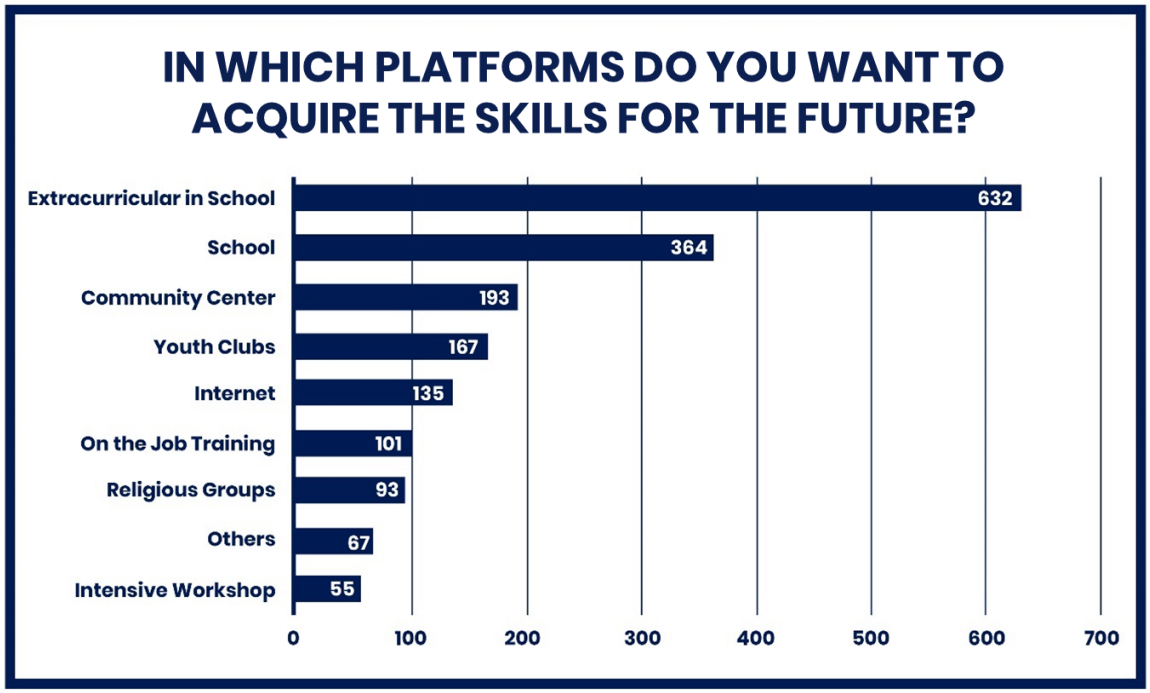
The U-Report poll also sought to understand the platforms through which adolescents prefer to learn new skills in the future. The overwhelming preference among adolescents was to learn skills through school. More than a third of respondents (35 per cent) preferred to learn through extracurricular activities in school, and a further 20 per cent wanted to learn skills in school. This might suggest that most respondents are in school or have attended school recently, but the platform mentioned above may not necessarily be the best source of information regarding adolescents who do not attend school or have completed their schooling.

After school-based learning, community centres and youth clubs emerged as potential sites for learning. Only 7 per cent of respondents identified the internet as a potential source for acquiring skills. Despite the high value parents and teachers placed on religious values (*see Box 4*), only 5 per cent of adolescents identified religious groups as sites for acquiring skills. Intensive workshops were least popular, with 3 per cent preferring this option.

So far, we have described the key channels through which adolescents acquire skills in Indonesia. It is also important to note that the different channels mentioned here do not work in isolation; rather, they interact. What adolescents learn at home can be developed further at school and honed thereafter in the workplace. For example, a male respondent in Jakarta explained how he honed his creative skills to make toys out of metal. These skills could be further developed through formal training through art courses. These skills could be enhanced, even further, through apprenticeships with a master craftsman at the workplace.

While it is clear that there are multiple channels through which skills are acquired, it appears that the school remains one of the major enablers which open up adolescents' exposure and motivation to acquiring new skills. However, it is also important for UNICEF to explore other platforms through which adolescents, particularly out-of-school adolescents, can learn new skills or upgrade their existing skills. Online learning platforms, community-based organisations and peer networks could play an important role here.

Figure 13. Channels through which adolescents plan to acquire skills for the future



Source: UNICEF (2019) U-Report poll data

5.5 Perspectives of parents and teachers on skills for the future

The perspectives of parents and teachers on skills for the future complemented each other. Hence, we present both their perspectives in this section.

The top five skills that parents and teachers believed adolescents need for the future across all three districts were religious and moral values, digital skills, communication skills, social skills, and creativity. Creativity as a skill was also emphasised by both parents and teachers during the group discussions. Parents and teachers mentioned two dimensions of creativity: creativity as a form of learning and thinking, and creativity in the context of innovation and entrepreneurship. Both forms of creativity were considered essential. Perseverance, hard work, and the ability to adapt to change were also some of the common skills that came up in group discussions with parents and teachers across all three fieldwork sites.

“Skills to maintain health”, *daya juang*, *iman*, and *akhlaq* were some of the key skills for the future mentioned by teacher/parents, but were not mentioned by students. This shows that there are some differences between the skills that adolescents value and the skills that parents and teachers believe are important. Adolescents emphasised the importance of employability-oriented skills and skills for personal empowerment, while government officials, parents, and teachers emphasised the importance of religious values.

In Jakarta, religious and moral values, digital skills, and communication skills were the top three skills mentioned by parents and teachers. In Sorong, parents emphasised the following skills as being important for the future: being healthy, responsibility and discipline, computer and IT skills, politeness, and communications skills. Teachers in Sorong also mentioned tolerance as an important skill for the future. In Semarang, while digital skills, communication skills, and self-confidence were mentioned as important, creativity and entrepreneurship skills were particularly valued by both parents and teachers. Teachers particularly emphasised the importance of a newly introduced course on entrepreneurship education

(*pendidikan kewirausahaan*) at the SMP level, which will enable youth to acquire entrepreneurial skills.

Teachers agreed that, while the amended 2013 curriculum aims to enhance the creativity, confidence, and communication skills of adolescents on paper, the curriculum remains challenging for teachers to implement. Limited training has been provided to teachers on using the new curriculum in the classroom. As mentioned earlier in this report, the 2013 curriculum is a part of the Indonesian government's strategy to embed the 21st Century Skills Framework into the K-13 curriculum as part of a larger human development plan (Bappenas, 2019). The Framework focuses on building additional competencies such as creative and critical thinking, responsibility, tolerance and adaptiveness to change into the core school curriculum. Teachers reported that they have not been trained to implement this new curriculum. One teacher explained:

> "The learning methods are already in the curriculum but, once they get to the classroom, only the teacher and God knows whether it's being applied or not. Sometimes they use the old style anyway. Students won't know whether the teacher has applied the Curriculum 2013 or not. The important thing is to pass the national exam; that's our target." (MAN, male, teacher)

Another teacher mentioned that the training was inadequate.

> "Each school gives us training on this curriculum. But this training rarely takes place - maybe once per year? Then we discuss this again and interpret it internally. There's no facility or support from the government for this. We do have a forum, though, with the other school, and there's also a representative from the Education Office. So that's where we usually get information." (MAN, female, teacher)

A striking finding from the discussion with parents and teachers was on the importance placed on moral values such as *akhlaq* and *adab* as the most important skills adolescents need for the future. Parents and teachers in both Islamic schools and public schools highlighted how these moral values, which include values such as politeness, respect, courtesy, honesty, and discipline, are essential for young people to become successful in the future.

The text box below explains this point in further detail.

Box 4: Moral values as foundational skills: the importance of *adab*, *akhlaq*, and 'good character'

Parents, teachers, and government officials in Jakarta, Semarang, and Sorong repeatedly highlighted the values of a*dab*, *akhlaq*, and 'good character' as some of the core skills that adolescents need to be equipped with to manage the transition from adolescence to adulthood successfully. While the term "*adab*" was used in all three locations, the term "*akhlaq*" was not mentioned in Sorong; instead, the term "good character" was used. It is important to note that 'character education' forms a key component of the school curriculum, although parents and teachers believe that despite its presence in the school curriculum, moral values need to be prioritised as a key skill that adolescents need for today and the future.

Adab and *akhlaq* refer to a set of ethical and moral values based on Islamic teachings, defined as a model code of conduct. While these terms were mostly mentioned by parents and teachers in Islamic schools, particularly in Jakarta, they were also used by parents and teachers in public and private schools. These terms had different dimensions, which included 'how to behave properly', having a 'good attitude' and 'politeness', which were terms that teachers and parents in non-Islamic schools also frequently mentioned.

Box 4: Moral values as foundational skills: the importance of *adab*, *akhlaq*, and 'good character'

In all regions, *adab* and *akhlaq* were considered complementary skills. There was broad consensus that 'good *akhlaq*' will generate 'good *adab*'. As *adab* also refers to attitude, 'good *akhlaq*' will generate good attitude. Together, both these values create moral character. A local government official highlighted the importance of *akhlaq* as follows:

> "Since childhood, children should be taught about character. There should be coherence in *Sekolah Dasar* (SD), SMP, and SMA about character. If it has been a habit since childhood, such character will be part of life. There should also be collaboration between schools and parents to improve this." (Local government, male, Sorong)

Many respondents noted that subject knowledge alone will not equip students with the skills they need for the future. Respondents across regions highlighted how the values of *akhlaq* and *adab*, when combined with academic knowledge, equip individuals with the intellectual, ethical, and moral values to become good citizens, to be successful in every aspect of their lives, and to protect children from negative influences.

> "We have three components in IT: software, hardware, and 'brainware' [24](sic). Now these three components must be managed with *adab*. So far, young people are active, but their *adab* is lacking. I want my child to be an active person, but also to have character and manners. This is the challenge facing the current generation." (MA parent, male, Jakarta)

> "There are a lot of smart people today, but smart people with a good mental attitude are very rare. With good character, someone will be curious about education; they will be more educated. They will have high persistence (*daya juang*). With positive thinking, someone will have forward thinking. Someone with no spirit to move forward will more likely behave negatively." (Local government, male, Sorong)

Parents in Jakarta also emphasised the importance of good *akhlaq* and attitude, and explained that this was more important than academic excellence:

> "In the general school, people want smart kids with good academics. For me, I want children to have good academics, but *akhlaq* should be number one. This should be foundational." (MA parent, female, Jakarta)

> "I prefer my kids to have a better attitude than to be smart". (SMP parent, female, Jakarta)

While parents and teachers highlighted the importance of good character and values, the idea of moral values rooted in religion more generally was repeatedly emphasised by respondents. According to a teacher in Semarang:

> "*Akhlaq* is the foundation for students over the next 20 to 30 years. With good *akhlaq*, someone can be good and honest, disciplined and tenacious." (SMA teacher, male, Semarang)

Both teachers and parents believed that children's unrestricted access to the internet and social media are changing the behaviour of adolescents, making them neglect their religious duties. A male teacher from Jakarta said:

[24] By 'brainware' the respondent meant the ability of an individual to apply IT knowledge to specific situations.

Box 4: Moral values as foundational skills: the importance of *adab*, *akhlaq*, and 'good character'

> "Parental control of the use of gadgets at home may also need to be increased so that children are not negligent in their religious obligations." (*Madrasah Tsanawiyah* (MTS) teacher, male, Jakarta)
>
> "Children are now more active with mobile phones and social media. What is even more worrying is that many children are eating and drinking while walking or even riding a motorcycle. This does not reflect the character of an educated person. We also see that juvenile delinquency is now very different; many are involved in drugs, and there are gangs that lead to crimes, not to mention poor behaviour towards teachers. Now many school-age children are disrespectful to elders. There are children with respect, but the percentage is small. My hope for the future is that the curriculum will return to the way it was, back to character education[25]. But, of course, academic education should be advanced. This is the IT era; this is modern life, so we can't move backward." (Local government, male, Semarang)

Parents were particularly concerned that a lack of moral character could make their children vulnerable to bad habits such as drug addition, smoking, or street fighting. For example, a mother in Semarang said:

> "There are a lot of challenges facing this generation: tawuran (street fighting between school children), drugs, fave (electronic cigarettes). It is therefore important to plant religious values, including *akhlaq*, in them*."* (MTS parent, male, Semarang)

Parents whose children attend an Islamic school mentioned that one reason driving them to send their children to such schools was their focus on moral education and character-building.

Parents consider *madrasah* as a channel for improvement for learning about religion, *adab,* and *akhlaq*:

> "It is important to impart religious values, including *akhlaq*. This gives this *madrasah* important bargaining power. Many parents send their children to the Islamic school (*madrasah*) because they see that *madrasah* have an emphasis on aspects of religion that cannot be found in public schools." (MTS parent, male, Jakarta)

Parents and teachers also emphasise the importance of 'good character', ethics and moral values, which are rooted in religious values. A parent from Sorong said:

> "Children nowadays want everything to be instant. They should be equipped with good character so they can face challenges. Good character includes honesty and *iman* (faith[26]). A good religious education and practising religion will lead to good character and avoid negative behaviour. Education is important, but 50 per cent of success is *iman*." (SMA parent, male, Sorong)

It was interesting to note that, while adolescents mentioned the "right attitude and values" as important skills needed for the future, religious values seemed to be emphasised predominantly by adults across regions.

[25] The components of 'character education' will be fully defined in Indonesia's National Medium-Term Plan (2020-2024).
[26] *Iman* is an Islamic value, however in Indonesia, this term is used as a cultural value and is the Bahasa term for 'faith'.

Parents and teachers in Jakarta divided the skills that were important for the future into three groups: intellectual quotient (IQ), spiritual quotient, emotional quotient and adversity quotient. The quotes below explain how these actors define these concepts.

> "IQ is needed to deal with problems. People with intelligence, with a high IQ, must be able to solve problems easily. Intelligent people can identify problems. First, identify the problem; formulate the problem; solve the problem; then follow up. Identification is hypothesis; group the problems, then process". (SMP parent, male)

Teachers echoed similar views and expanded ones too. Some excerpts from FGDs with teachers in Jakarta discussing which skills are valuable in the future are summarised below:

> "The adversity quotient [the respondent used this exact term] is needed because they need intelligence to change problems into an opportunity. In economics, for example, there is a growing online business; even now it has beaten offline business. The point is that, in facing this challenge, if we do not adapt, we will be eliminated." (MA teacher, female)

> "Emotional intelligence is needed so that they don't get easily "*baper*" [terminology used as an adjective for someone who gets easily emotional instead of being logical and thinking things through]." (MA teacher, female)

Parents and teachers in Jakarta agreed that the family is a key channel through which these skills can be developed. They also highlighted the important role that religious values can play in strengthening the emotional quotient of adolescents to enable them to manage challenges in life. They used the terms "barometer", "guide", and "channel" to characterise the role of religious values in building skills and shaping the personalities of adolescents as they transition into adulthood.

Parents and teachers across all three regions agreed that digital skills are a key skill needed for the future. However, parents and teachers across all three districts highlighted the challenge of managing the degree to which adolescents are exposed to technology. They view the fact that they themselves do not understand how to use technology well as a key hindrance to controlling and managing how adolescents use these technologies. Parents also emphasised how a strong grounding at home in religious and moral values can counter the negative effects of technology. This is summarised in the following quote from a parent:

> "Technology can have a negative impact if parents do not monitor their children; there should be control and selection. Parents and children have to be selective."

Social skills (*kemampuan bersosialisasi*): Social skills, which include a wide range of interpersonal skills, were another core set of skills that respondents across categories listed as important. When asked about the skills they currently have, adolescents across regions mentioned "the ability to get along with other people" as important. Parents and teachers highlighted different dimensions of social skills and explained their importance. For example, parents across regions mentioned that they would like their children to be socially aware, to "be able to judge whom they can trust" within their peer group or social circle, to "respect others", and also to "develop empathy". Parents provided examples of how they encourage their children to become members of youth groups, community-based organisations, religious organisations, or extracurricular activity clubs to train their children to relate to others and develop social skills. Teachers also highlighted the importance of instilling the quality of empathy in adolescents through participation in group activities. Employers appear to value these skills tremendously as well, as demonstrated by the fact that social skills formed an important component of a three-day soft skills training programme for a major service sector employer working in the beauty and wellness sector in Indonesia.

Skills for entrepreneurship (*keterampilan berwirausaha*) or having an entrepreneurial spirit (*jiwa keterampilan*): The term 'entrepreneurship' is used in different ways. It is used to refer to taking the initiative and risk or coming up with innovative ways to earn money. For example, adolescents across regions provided examples of selling crafts or food to teachers at school as an indicator of their entrepreneurial skills. In Semarang and Jakarta, they provided examples of recycling material and making toys out of unused material. Out-of-school adolescents across all three regions highlighted the importance of entrepreneurship skills, providing examples of how they took up multiple jobs and balancing this with non-formal education. Parents and teachers linked these skills to creativity and initiative and believed that extracurricular activities play an important role in instilling these skills in adolescents. There was consensus across respondents and across regions that adolescents will need to develop these skills in the future.

According to parents and representatives of community groups for disabled children, the key skills that adolescents or children with special needs must develop include confidence, creativity and communication skills. Parents note that boosting the confidence of adolescents, particularly those with special needs, is very important, as this will enable them to socialise with everyone.

Parents acknowledge that special needs children face diverse challenges and that parents find it difficult to find schools that provide the 'right fit' for their child. Therefore, parents of children with special needs play an important role in making choices on the skills their children are exposed to and the kinds of institutions in which adolescents with special needs acquire skills. A female parent said:

> "There needs to be a good understanding between parents and children, especially if the children have special needs. This will enable parents to provide their children with the right opportunities to develop their skills."

When asked about the aspirations they had for adolescents, teachers in all three districts highlighted that they wanted to ensure that "students can do the best for themselves and benefit their community". Parents in Jakarta wanted their children to become professionals, civil servants, or entrepreneurs. In Semarang, parents wanted their children to work in the private sector or become entrepreneurs. In Sorong, non-Papuan parents encouraged their children to become entrepreneurs and wanted their children to set up their own businesses. They indicated that being a civil servant was not the best option for non-native people, possibly because of the system of affirmative action or the *putra daerah* (native citizen of a particular region) approach.

Teachers and parents also agreed on some of the broad challenges and hindrances preventing adolescents from realising their potential. A common theme that came up during the group discussions in Jakarta, Sorong, and Semarang was the idea that adolescents lack self-confidence and that a key factor hindering them from realising their aspirations came from themselves or from other children who mock and bully them. Parents and teachers across all three regions mentioned that adolescents were often distracted by using mobile phones too much or may be vulnerable to negative behaviours such as smoking or drinking.

Discussions with parents and teachers also highlighted some stereotypes that adults had of adolescents, characterising them as "easily distracted", "impolite", or "disrespectful to adults". They therefore believed that moral education rooted in religious values was important for instilling the right attitudes and values in adolescents to enable them to transition successfully from childhood to adulthood. There are no clear findings regarding whether adolescents agree or disagree about this stereotype. While aware that technology might distract them, adolescents strongly believed that technology was also a key enabler for acquiring new skills.

5.6 Perspectives of employers and recruiters on skills for the future

This section highlights the key skills that employers and recruiters believe are important for the future. The findings in this section are organised according to region to highlight some of the regional differences from the employer/recruiter perspectives.

Some of the key questions that the field team asked employers and recruitment agents included:

a. What are the entry-level skills that employers look for when recruiting a new candidate?

b. What kinds of skills are most valuable to employers and why?

c. What skills gaps do employers find between the skills that they require and what new employees possess?

d. Is there a difference in the skill sets that employers value now as compared to five years ago?

e. Will these skill sets continue to be important, and what new skills will be needed in future?

f. To what extent do employers provide on-the-job training or apprenticeship training?

g. Does the organisation provide opportunities for skills upgradation or retraining for workers? If so, how does this work? If not, what other opportunities are available for young people to acquire new skills?

h. What role does gender play in selecting individuals for specific job roles?

An important theme that came up during discussions with employers across all three regions was the gap between the skills young people have when they enter work and the skills needed by the organisations.

Some of the key overall findings in this section are as follows.

- Employers specifically mentioned the lack of key transferable skills as a key skills gap among adolescents and youth who are entering the job market. Employers believed that, while technical skills can be taught easily over a short period, transferable skills such as having “the right attitude towards work”, “communication skills”, “diligence” and “persistence” (*pantang menyerah*) must be taught at an early stage and cannot be taught through short-term courses at the workplace. Hence, they emphasised that these transferable skills must be taught to adolescents in schools and at home.

- Employers across regions explained that, in the past, they specifically recruited new workers based on their technical competencies. However, recently there has been increasing emphasis on measuring attitudinal skills and transferable skills. Employers and recruitment agents explained that this trend is likely to continue in future.

- All the employers who participated in this study had brief on-the-job training programmes for new employees. However, only one service sector firm had a skills upgradation programme. A key finding across regions is that very few employers invest in upskilling and reskilling their existing workforce. Representatives of recruitment agencies emphasise that this trend is expected to continue in the future, where the onus for remaining up to date with employer requirements will rest on individuals. One of the recruitment agents mentioned that a key skill that adolescents will need to have is the “thirst for knowledge” and the “ability to learn to learn”. The idea that that there is an urgent need to promote lifelong learning is a key recommendation of ILO’s *Global*

Commission on the Future of Work (ILO, 2019), which proposes a framework for lifelong learning as a key strategy for ensuring that workers remain resilient to technology change and changes in production systems. In addition to this, while technical skills can be taught through these training programmes, employers agreed that they cannot train new recruits on problem-solving or critical thinking skills in this way.

- Employers across different regions had certain gendered perspectives on job roles. For example, an employer in Jakarta felt that young women were best suited to work in the beauty industry. Similarly, in Sorong, representatives from a bank explained that they preferred to recruit women for client-facing roles as women are considered to have good interpersonal skills. In a manufacturing firm in Jakarta, over 80 per cent of employees who worked on the shop floor were men. The human resource manager in the company explained that this was not a conscious decision but that men typically apply for jobs as operators in the company's manufacturing plant. One of the managers in the company mentioned that the work was physically exhausting and often involved lifting heavy objects, which was more suitable for men.

Some of the region-specific findings from employers and recruitment agents are detailed below.

5.6.1 Perspectives on skills for the future from employers in Jakarta

In Jakarta, the research team interacted with two major employers, one in the manufacturing sector and one in the services sector. The two employers in Jakarta are Indonesian companies employing over 1,000 workers in units across the country. The service sector organisation works in the beauty and wellness sector (employing only young women). The organisation runs customised training programmes to train new recruits and employs them once they successfully complete their training. The manufacturing firm primarily employs male technicians trained in polytechnics to work on the shop floor. Entry-level staff in these companies come from SMK institutions and polytechnics from Jakarta and other provinces.

In each of these organisations, we held FGDs with four key members of the organisation: one representative at the CEO/COO level working on the company strategy; one representative from the human resources team; and two technical staff members working directly with new recruits to understand some of the skills challenges from the perspectives of the firm.

Some of the key findings from the discussions with employers in Jakarta are as follows.

- There are major gaps between what workers are taught in skills training institutes and what they require at the workplace. These gaps extend to both technical skills and soft skills. Both firms cope with these skills gaps differently. The firm in the service sector now runs six training programmes for women and only those who successfully complete this training programme are recruited into the organisation. The training programme has both a technical and soft skills training component. The CEO of the organisation said:

  > "Soft skills are particularly important in the company's area of work, as we are a service sector organisation. It takes three to six months for girls (even those who are formally trained elsewhere) to pick up these skills. There is a huge skills gap and we are trying to fill that gap."

  The representatives of the manufacturing firm mentioned that they typically recruit from local engineering colleges and polytechnics to recruit workers as operators on the shop floor. They mention that while the workers they recruit have diplomas on paper, they

need to be trained almost from scratch through the in-company training programme. The company invests a lot in training both entry-level workers and mid-career professionals. The human resource manager said:

> "In Indonesia, we have a serious problem of quality. People may have degrees on paper but will not have the skills needed in the workplace. This includes technical knowledge, but also includes attitudes and values such as discipline, punctuality, and time management. These skills gaps hinder growth in the country."

Other aspects of quality mentioned by the manufacturing firm included the point that course content and curricula are not up to date with latest industry standards. As a result, companies must step in and invest in training workers.

- Representatives from both organisations also highlighted the fact that low quality education results in a poor foundation for skills training. This is a major challenge mentioned by the two firms. Representatives of both organisations mentioned that, while literacy rates are relatively high in Indonesia, learning outcomes are low. As a result, basic literacy and numeracy skills are lacking and skills training needs to be provided in the absence of these skill sets. They also mentioned that evaluation and assessment systems do not train individuals to think critically and make judgements or to be diligent and persistent. These are all key skills that young people need to have to become and remain employable.
- Employers highlighted the importance of strengthening the education system to ensure that education standards are high. Skills training providers need to train young people while keeping industry standards in mind. This will ensure that companies recruit workers with relevant skills. Both firms also highlighted that the skills development system in Indonesia is fragmented, with limited links with workplace requirements. As a result, young people who complete training in these institutes remain unemployable. Making youth who complete training in SMK, polytechnics, and other training institutes employable through apprenticeship programmes and workplace-oriented training will be important ways to instil employability-oriented skills in young people.
- Transferable skills are essential to ensure employability and career progression. Both employers mentioned the importance of soft skills (particularly attitudinal skills, time management, and communication skills) as being key to enhancing the employability of young people. These skills and qualities also facilitate promotions and enable career progression within these organisations. The importance of transferable skills (such as communication skills and language skills) was also highlighted by representatives of recruitment agencies, who mentioned that the possession of these additional skill sets also led to higher wages and better opportunities for career progression. This finding is echoed in global studies on skills for the future (World Bank, 2018; ILO 2019).
- The top two skills identified by both employers as being essential for the future were English language skills and managing technology (particularly IT).

  In the service sector organisation, English language and IT skills were important for two reasons. One of the companies that took part is now expanding; over the next five to ten years, it plans to open new units in South Asia and Southeast Asia to serve foreign clients. As a result, the knowledge of English and other foreign languages will be essential for workers in this sector. The CEO of the organisation recommended strengthening of language training in schools as knowledge of an additional language tends to translate into higher wages. The service sector firm also emphasised the importance of digital skills and referred to using online apps and managing financial transactions online as key skills needed for those working in the beauty and wellness sector. The human resource manager of the company mentioned that attrition rates are

high in the sector and that several young women in the beauty and wellness sector seek to become entrepreneurs and provide services to clients independently. Knowledge of technology becomes a key skill that can help young women in the sector become entrepreneurs and make progress in their careers.

- Representatives of the manufacturing sector firm highlighted the importance of IT skills as a key skill that every employee of the organisation needs to know to remain employable. They also emphasised that workers at every level need to be up to date with changes in technologies and manufacturing processes, as technology is changing rapidly (and in some cases becoming obsolete) in the sector. English language skills were seen to be essential for career progression in the company. The organisation frequently interacts with foreign clients and those who are unable to communicate well in English may be left out of promotions to leadership positions.

5.6.2 Insights from employers on skills training and adolescent aspirations in Semarang

The strong presence of industry in Semarang has led to the establishment of a wide range of training institutions (public and private) to provide a steady supply of skilled workers to local employers. In Semarang, the research team interacted with three employers. The first was a company servicing the garment manufacturing industry focussing on packaging garments and providing laundry services for finished garments; the second is a manufacturing firm working in the food sector; and the third firm manufactures furniture and wooden products for export.

All three firms employ a combination of permanent staff on the formal rolls of the company and contract workers. They all provide basic, technical training in-house and recruit from local training institutions. In each of these companies, the field team spoke to a human resource manager and a senior manager in charge of the organisation's strategy to understand current and future employment trends. All three companies were hiring new workers and were optimistic about the growth of their businesses.

A distinctive feature of Semarang was the close partnerships between employers and local training institutions. Dual models of training and apprenticeship training models are common and employers mentioned playing an active role in creating new course content for training institutions or conducting assessments. Employers highlighted the close collaboration between local government, industry, and training institutions as a key factor behind Semarang's success as a manufacturing hub. Importantly, these institutions not only train new recruits but also include programmes for skills upgradation, enabling workers to acquire new skills and make progress in their careers.

The text box below explains this idea in more detail.

Box 5: Non-formal skills training institutions in Semarang

Semarang has several skills training centres imparting employability skills to adolescents in the region. These institutions were established as a result of a 2017 MoM policy seeking to provide a steady supply of trained workers to local industries. The field team visited one such institute, which focused on providing free employability skills to young people in the region.

Unlike training institutions in Jakarta and Sorong, employers, government officials, and educators mention that training institutions in Semarang have close linkages with industry in developing course curricula, setting standards and in establishing workplace-based (dual models) of training.

Box 5: Non-formal skills training institutions in Semarang

Trainees are selected for the training programme based on their performance in an entrance test. Many trainees who enrol for these courses have either completed non-formal education or have dropped out of school and would like to re-enter work. The training is residential. On completion of training, trainees are placed in local industry. Trainees continue to work as apprentices in garment manufacturing units. Employers pay the local government Rp100,000 for each graduate they recruit. This training lasts for 22 days.

These institutions also provide an opportunity for youth to change their career track and acquire new skills. For example, one female student in the training centre had been a cook for several years before joining the sewing machine operator training at the institute. She said:

> "I am 23 years old and graduated from junior high school in Gemolong in 2011. I worked in many places, including as a cook in a Padangnese restaurant from 2013 until 2017. We just started training here; today is the fourth day. Here, we learn how to sew well and have the right sewing skills. On the first day, we were taught about the 5Rs: *Rapi Resik Rawat Ringkas Rajin*, or the principles of cleanliness, neatness, maintenance, being practical, and diligent."

A senior official at the institute added that almost all the trainees are successfully placed in local industries after training. He said:

> "We distribute our graduates to industries, so almost all our graduates are absorbed into industry. This makes us different from other government training centres."

The popularity of this training programme, combined with the strong recognition from industry, has led this organisation to partner with other BLK institutions in the region.

Another institute the team visited was a training centre funded by MoM. This institute offers on-the-job training, but also works closely with industry to develop and update course content and curricula and training or trainers' programmes. The course content and curricula can also be used by other BLK institutes for training of trainer programmes. As Semarang is a key hub for the garment industry, the institute has also developed a range of additional courses in fashion technology, business management, human resource management and entrepreneurship, with a specific focus on supporting the garment industry in the region. These new courses have been designed with the changing workforce requirements for the garment manufacturing sector in mind—which, according to an official, will need designers, marketing specialists, and financial managers in the future.

Training centres not only provide training to entry-level workers but also skills upgradation (upskilling) and reskilling courses to existing industry workers to refresh their skills and ensure that they remain employable in the future.

Some of the key insights on the theme of skills for the future from the perspective of employers in Semarang are summarised below.

Employers from all three firms emphasised that the high quality of training in local institutes is a major advantage. As a result, workers enter the firm with strong technical skills. However, fresh recruits often lack transferable skills such as communication skills,

punctuality, persistence, and time management. These skills are often acquired by workers on the job.

Employers in Semarang also emphasised the importance of digital skills as key to ensuring adolescents are productive and employable. Employers in Semarang highlighted the importance of digital skills as an important skill for the future. An employer working in the furniture business emphasised how digital skills are increasingly becoming an important tool for sales and marketing of products. In addition, products for export are also being sold through online platforms; employers or entrepreneurs working in the handicrafts sector therefore need to possess these skills to remain competitive. This idea was also echoed by a recruitment agent who believed there was a growing demand for coders and youth to create online digital marketing platforms. He predicted this trend would increase in the future. Another employer also mentioned the importance of financial literacy as a key skill for the future. This included maintaining accounts diligently, reading balance sheets, and managing cash flow.

5.6.3 Perspectives on skills for the future from employers in Sorong

Tourism, banking, hospitality, fisheries, agriculture, and the oil and gas industry are some of the key employment sectors in the region. The research team interviewed employers from three firms: two banks and a major oil and gas company. One of the banks was a small branch office with just 10 staff, while the second bank was a larger financial institution with over 50 employees. The oil and gas company was a large firm employing over 1,000 workers across Papua. The company unit visited by the field team had 35 staff.

Some of the key challenges highlighted by respondents in Sorong are as follows.

Unemployment rates are high in Sorong, largely due to a mismatch between the skills people are trained in and the job opportunities that are available. For example, a trainer from a vocational school explained that most of the graduates from a sewing class in Sorong cannot work in the garment business because there is not much of a garment industry in Sorong. However, a limited number of institutions provide training to work in the banking sector or in sales and marketing. Most job opportunities for educated and skilled youth in Sorong are administrative job roles in the banking sector, tourism and hospitality sectors or a combination of technical and managerial staff in the oil and gas sector. The absence of strong training institutions in Sorong has led employers to train workers in-house. Employers also complain that recruiting workers who fit the job criteria and retaining them are key challenges. While employers are mandated to follow the *putra daerah* policy of employing native Papuans, managerial jobs are often given to Javanese youth, whom they considered more employable.

Employers highlight the low quality of education as a key challenge to recruitment. Key skills like basic literacy and numeracy are low. As result many young people are considered unemployable even if they possess formal vocational training certificates. Those who go through vocational schools such as BLK are taught basic employability skills, which also includes soft skills. These programmes have helped improve the skills of workers, but low core foundational skills mean that, even if these young people are employed, they have limited career progression pathways. For example, employers working in the two banking firms explained that recruits from Sorong lack basic numeracy, financial literacy and digital skills. While the bank has developed online training modules for staff that are used in other branches, employees in Sorong find it difficult to follow the online training module. The oil and gas firm has launched an initiative to develop the skills of the local Papuan workers aimed at ensuring that 85 per cent of their workforce is Papuan by 2029. The company has initiated a Technician Apprenticeship Programme to train youth to work on oil and gas

projects. This intensive three-year programme begins by providing foundational skills training in subjects such as mathematics, chemistry, English, oil and gas production, work safety, electronics and mechanics and instrumentation. The key target group for this training programme comprises of indigenous Papuans aged between 16 and 30, living in Papua Barat and with a minimum of a high school qualification. Currently, 112 Papuan youths are attending this intensive training programme. The 85 per cent target will be achieved gradually; they have now reached around 45 per cent. The company also has a rule that, if a non-Papuan retires, they will be replaced by another Papuan.

Employers in Sorong mentioned that workers and youth lack attitudinal skills. This includes *rajin* (diligence). There also seems to be a general perception about the lack of professionalism in Sorong, which was echoed by employers and government officials. Some employers indicated that local staff lack these professional skills and that there was an urgent need to improve the quality of employability-focused training for youth in Sorong. The training programme for Papuan adolescents and youth working in the oil and gas sector also has a strong attitudinal skills component to overcome this gap.

Workplace requirements across the three organisations are changing rapidly and employers were concerned that the education and skills training ecosystem was not keeping up with the rapid changes in the sector. For example, representatives of the banking industry explained the changing nature of the banking industry in Indonesia. A major trend included the shift towards digitisation and online banking, which has led to redundancies across banks in Indonesia. Employers also expressed the concern that the spread of online banking has led to an increase in the demand for coders and IT professionals in the banking sector. This has also meant that customers must be digitally aware and learn to use online banking safely. Representatives of the banking sector emphasised that managing technology and finances online was a key skill for adolescents to be equipped with. They also emphasised the importance of English language skills as a key skill for the future.

5.7 Perspectives of government representatives on skills for the future

Understanding the perspective of government officials on skills for the future was a key aspect of this study. The field team interviewed government officials at the national and local levels. Some of the key questions that were explored include:

a. What are the top three policy challenges for the Government of Indonesia pertaining to youth/adolescents?

b. What contributes to the high unemployment rate in Indonesia? What is the government doing to address this challenge?

c. Have there been successful initiatives on skills training for youth in Indonesia and, if so, what contributed to their success?

d. Will expanding access to skills training or equipping youth with new kinds of skills make a difference?

This section begins by highlighting the perspectives of national level government officials on the theme of skills for the future. Following this, some of the contextual interventions and policy priorities at the local level are addressed in detail.

Some of the key policy priorities from the perspective of national level government on the theme of skills for the future are summarised below.

- A mismatch between the skills adolescents and youth have and workplace requirements, high unemployment rates and the varying quality of skills training across institutions were

mentioned by government officials as key policy challenges government officials are trying to address through a range of policy and programme interventions.

- National government officials were particularly concerned about the high unemployment rate of youth in Indonesia. Officials attribute this largely to the gap between the training offered in institutions and workplace requirements. Officials were concerned that certain sectors in the economy such as banking and finance or e-commerce were rapidly changing. They emphasised the need to reform skills training and link it closely to workplace requirements. Over the last five years there have been a wide range of initiatives to strengthen training in institutions such as BLKs and PKBMs as well as scaling up apprenticeship training. There has also been an increased focus on ensuring that training institutions train for local job requirements to ensure that youth who complete skills training programmes are employable.
- Government officials across all three districts explained that adolescents need a combination of IT skills, English language skills, and good *akhlaq* to manage the transition from adolescence to adulthood successfully. These were listed as the top three skills that adolescents need for the future. A national government official in Jakarta summarised how he tries to instil this as follows:

  > "The main skill I think adolescents need for the future is a mastery of the field of IT. IT can make life easier; at other points it can also be very dangerous. It is not enough to master IT for the future, but it is also important to instil religious values. I make sure that I am home before *maghrib* (afternoon prayer) so that I can pray together with my children. Later, after that prayer, I also have a short discussion with my kids."

  Government officials explained that a combination of these three skills will enable adolescents not only to secure jobs, but also to become 'job creators'. National level government officials emphasised the point that the country's youth were a valuable resource that must be harnessed through skills training programmes.

- Creating strong partnerships with industry is a major challenge and an urgent priority for government officials. Industry partnership a key enabler of skills reform. Government officials at the national level complained about limited industry support to vocational training institutions. One official said:

  > "I also always say to my industry friends, 'Let's invest in education. If they want to be involved, this is part of the investment.' I tell them that investing in the curriculum and infrastructure is actually good for their own investment too. Later, when students graduate from school well prepared for work, there will be no need for in-depth training in the industry."

  Yet despite these attempts, industry support is limited as the SMK continue to signal low training quality in the job market. Officials explain that it is important for the private sector to view vocational education as a partnership between industry and the government to improve the quality of training and the employability of youth.

- Meanwhile, according to the upcoming National Medium-Term Plan (2020-2024) and the Presidential Instruction No. 9/2016, there is an increasing focus by the Government of Indonesia to focus on human capital and, in the latter, to develop expert competencies in the areas of tourism, the creative industries, maritime affairs, food security, IT and manufacturing and engineering technology. Vocational schools are also encouraged to revise the courses and curriculum for job roles related to the creative industry, the tourism industry and the IT sector**.** These three sectors are considered high growth sectors in Indonesia that could generate new employment opportunities for the future.

Some of the regional priorities of government officials are highlighted below.

- Making adolescents and youth employable for the future was a key policy priority for government officials across regions. Creating strong linkages between training institutions (particularly SMK) and industry is seen as essential to make students employable. Government officials in Jakarta mentioned that one of the key focus areas in skills and TVET reform in Indonesia has been to try and connect training institutions directly with industry. Officials explain that, although there is a perception among employers that the quality of education and training in SMK is weak, there have been several attempts to strengthen the quality of courses offered by SMKs and make them relevant to industry requirements. In recent years, even *madrasahs* and religious schools have been offering vocational training courses such as mechanical skills courses, partnering with organisations like Honda to deliver the training programmes. Those who complete their schooling from these institutions are also guaranteed placement in firms like Honda. In Semarang too, the training centres have close linkages with companies in the region. Training institutions rely on industry representatives to create course content and curricula. Apprenticeships and on-the-job training programmes are also important ways in which industry collaborates with training institutions to provide employability skills. In Sorong, local government officials are collaborating with a major oil and gas firm to develop a skills training programme for Papuan youth.

- In Sorong, government officials mentioned that preserving the regional heritage was an important priority and that understanding heritage and preserving culture is an important skill for the future. For example, the District Education Office in Sorong has prepared a master plan and will build a one-stop learning centre (*Sanggar Kegiatan Belajar*) in the next two years. The courses and programmes offered in this institute will be focused on developing the natural and human resources of Sorong. For example, one of the courses will work with the Ministry of Industry culture and will include classes on dance, crafts and carving. A national level government official who is responsible for education in Sorong mentioned that, when we look at skills for the future, we must also consider preserving the heritage of the past and build on this. Similarly, there is an increased focus on developing regionally focused skills training programmes that address regional skills requirements and challenges.

- Revitalising SMK in line with Presidential Instruction No. 9/2016 is an urgent policy priority for local government officials. An important component of this programme includes connecting training with workplace requirements. This initiative was particularly successful in Semarang where the field team observed a number of partnerships bringing together employers and training centres focusing on restructuring courses and curricula training trainers to strengthen employability outcomes. To strengthen the quality of certification, the local government has also established the DKI Jakarta Professional Certification Institution. Under this initiative, the training of trainers and assessors' programmes have also been established to improve the overall quality of training.

- Another key area of reform undertaken by the local government involves strengthening the dual system of workplace-based training in vocational schools. Vocational schools in the district have partnered with companies like Honda and Astra to improve the quality of training of students who seek to work in the automotive sector. Similarly, another industry partnership (SMK Mandiri) provides the opportunity to earn while learning in an industry environment and to obtain customer feedback. An official explained the benefits of these partnerships:

  > "The industrial work culture must be embedded in the school. This will stimulate children to understand the demands of work in the industrial world. Planting those values begins in school. Children are also sent as interns to industry. They can

learn how the 'real world' works, and besides they can strengthen their character education through various tasks and various other approaches."

5.8 Conclusion and chapter summary

This chapter has provided a snapshot of how diverse actors view the future and provides an overview of the kinds of skills adolescents need to be future-ready.

Respondents used terms such as "rapid change", "opportunity", and "risk" to characterise the future. Opportunities include new kinds of job roles leveraging technologies, new ways of learning through online platforms and new forms of work that enable individuals to connect with global markets by working from home. Risks include precarious work environments, an increased risk of job losses and redundancy and increasing pressure on the individual to remain employable and productive. At the same time, individuals could also face a range of other personal challenges including financial shocks, health shocks, peer pressure and limited career progression pathways. A wide range of transferable skills, which includes managing change, being adaptive and creative and learning continuously are vital to manage these risks.

An important finding from this chapter is adolescents in Indonesia face skills challenges at three levels.

At a basic level, adolescents in Indonesia have skills gaps. Adolescents in Indonesia are acquiring a wide range of foundational skills, job-specific skills, transferable skills and digital skills. However, they also face skills gaps in each of these areas. There is a clear mismatch between the skills adolescents think they possess and what employers require. There are gaps between what adolescents think they need for the future and what parents, teachers, and government officials think adolescents will require to lead successful lives in the future. Importantly, respondents across all three fieldwork sites highlight the point that a wide range of transferable skills, ranging from moral values and attitudinal skills to communication skills, are essential to transition successfully into adult life. There are very few channels available for adolescents to hone these skills. Therefore, addressing these skills gaps is an urgent priority for the future.

Over and above skills gaps, adolescents also face aspiration gaps which affects how adolescents perceive and prepare for the future. Adolescents across all three fieldwork sites seem to have limited exposure to what the world of adulthood looks like. Their personal and professional aspirations are influenced by their narrow exposure to the world outside the formal education systems. As a result, adolescents face two kinds of aspiration gaps. Either they have high, possibly unrealistic aspirations, which could set them up for failure in the future, in the absence of guidance and mentorship. For example, this was observed in Jakarta and Semarang, where adolescents aspired to be wealthy entrepreneurs, and were unaware of the inherent risks that characterise entrepreneurship as a career choice. Another version of this aspirations gap is the reverse challenge, where adolescents may be constrained by their own economic and social circumstances and lack the confidence or imagination to dream of a future that is different from the paths that their parents followed. This may hinder them from realising their true potential. This was observed in Sorong, where several adolescents dropped out of school early and aspired to support their parents' livelihoods. While adolescents in Sorong worked hard and took on multiple jobs, most adolescents interviewed did not imagine a future that was different from the lives that their parents had. This could be either because they are not aware of opportunities to aspire to or because there are no opportunities where they live. Therefore, bridging the aspirations gap and instilling what Appadurai (2004) calls "the capacity to aspire" in adolescents emerged as a key skill required for the future.

Lastly, over and above the skills gaps and aspirations gap, adolescents also face information gaps. Limited exposure to the world outside formal education, limited access to information, guidance and mentorship, combined with a lack of knowledge on which sources of information are credible serves to exacerbates this challenge. Adolescents, parents, teachers and employers all highlighted the point that information gaps about the rapidly changing world of the future are a crucial component of the skills challenge that adolescents face. Equipping youth with the information to make informed choices about the future is essential to enable them to manage risks and future challenges.

Therefore, a key insight from this study is that any programme intervention to address the challenges of skills for the future should holistically address the skills gaps, aspirations gaps and information gaps that adolescents have, to enable them to maximise their potential and successfully navigate adulthood.

6 Conclusion and policy recommendations

6.1 Overall study conclusions

This research study on skills for the future provides insights into two key areas.

First, it explores the multidimensional nature of skills, the diverse channels through which skills are acquired and the factors that enable and hinder skills acquisition by exploring the perspectives of adolescents, parents, teachers, employers and government officials. Some of the main findings from this aspect of study are summarised below.

- Skills are defined and understood by diverse actors in broad, multidimensional terms. Respondents defined skills as capabilities that will enhance an individual's ability to earn a livelihood, but also as capabilities that are applicable to an individual's personal and professional lives.

- Across regions, adolescents in Indonesia are striving to learn a combination of skills both in school and outside school. These skillsets include foundational skills, job-specific skills, transferable skills and digital skills. In areas such as Jakarta and Semarang, where there are diverse channels available to acquire a wide range of skills, adolescents provided examples of how they learn a broad range of skills (from fashion design to coding) both in school and outside school. These skills are honed even further through membership of clubs and societies and through participation in competitions; or through enrolment in online training courses. In regions such as Sorong, with fewer opportunities to acquire new skills, there were examples of adolescents travelling long distances to acquire digital skills or take up employment opportunities at a young age, with the aim of acquiring employability skills and earning additional income.

- Formal institutions such as the school or training institutions are the main channel through which adolescents acquire new skills. While community-based organisations and peer and family networks are important channels through which skills are acquired, adolescents in Indonesia largely acquire skills through the school education system. Parents have high expectations regarding the ability of schools and the education system to nurture skills in youth. Teachers mention that, while the school can help teach foundational skills, transferable skills and attitudes and values need to be taught at home.

- Role models such as parents, teachers, peers, or family members play an important role as enablers across all three fieldwork sites. They steer and shape the aspirations of adolescents and motivate them to acquire new skills. Institutions such as the school and the home were also key enablers of skills acquisition. These institutions played a key role in instilling the desire to learn and exposing adolescents to new learning opportunities. In regions such as Semarang, the strong partnerships between government training institutions and employers was a key factor enabling adolescents to acquire skills for employment and find jobs. Targeted government policies, such as the inclusive education policies in Semarang for children with disabilities or Sorong's local government policies to provide skills training to local youth, are also key enablers making access to skills more inclusive. How can these enablers be strengthened even further? This is a key question for policymakers to consider.

- Financial constraints emerged as a key hindrance to skills acquisition, according parents, teachers, government officials and some adolescents. In addition, peer pressure, addiction to social media and digital gadgets, bullying and substance and alcohol abuse were also listed as key hindrances according to adolescents, parents and teachers.

These hindrances particularly affect adolescents from vulnerable groups and exacerbate social exclusion. For example, discussions with OOSC brought out how substance abuse, combined with peer pressure and lack of family support, led children to drop out of formal education systems. Similarly, children with disabilities (and their parents) reported bullying as a key challenge they encountered in school. This undermined their self-confidence and was mentioned as a hindrance to learning and personal empowerment.

- Gender was an important theme that came up repeatedly during discussions on skills. An important insight from this study was that, while there was broad agreement that boys and girls should have similar skills and the same opportunities to acquire them, the dominant view was that expectations of males and females are different in practice. This idea came out sharply in group discussions with parents and teachers. For example, the idea that boys need to grow up to be financially responsible or the idea that higher education for girls is more a luxury than a necessity came up repeatedly in group discussions with parents across regions. Teachers also echoed this view. Differing gendered expectations, however, did not come up during group discussions with adolescents.

A second core focus area of this study was the theme of 'skills for the future'. The study provides an analysis of the kinds of skills adolescents are acquiring today and the kinds of skills they will need in future to successfully transition from adolescence into adulthood and maximise their own potential. Some of the key insights from this study on this theme are summarised below.

- Adolescents described the future in terms of new opportunities and possibilities. They were striving to perform well at school, excel in extracurricular activities and develop their interests. Adult respondents - parents, teachers, and government officials - characterised the future in terms of both risks and opportunities. Some of the risks mentioned included financial shocks, health shocks and unemployment. Adult respondents emphasised that it was vital for adolescents to be equipped with a broad range of transferable skills to navigate these risks.

- Adolescent respondents across regions had high aspirations and were optimistic about the future. During the discussion on aspiration, respondents specifically emphasised professional aspirations. A striking finding was that adolescents and their parents in Jakarta and Semarang mentioned entrepreneurship as a career path they aspired to. The term 'entrepreneurship' in Jakarta and Semarang was associated with glamour, success, wealth, and hard work (according to adolescents). Parents in both regions took the initiative to help their children take online courses and acquire new skills, particularly digital and financial skills, to enable them to achieve their goal of becoming a successful entrepreneur. In contrast, in Sorong, entrepreneurship was not an active career choice, but rather a fall-back option out of necessity. It was not perceived by parents, adolescents, or teachers as pathway to wealth but as a way to earn a basic living. Adolescents across all three regions also aspired to support their families and meet their family's expectations of them.

- Transferable skills emerged as a key area for adolescents to develop in the future, according to adolescents, parents, teachers, employers, recruitment agents and government officials. A wide range of transferable skills were mentioned by adolescents as important skills for the future, including IT skills, foreign language skills (particularly English language skills), creativity, confidence, perseverance, public speaking skills and social skills (*kemampuan bersosialisasi*). Interestingly, a majority of adolescents also felt they had some of these skills already but were keen to develop them even further.

During the U-Report poll, adolescents mentioned creativity, cooperation and respect for diversity as the top three skills they would need for the future.

- An important point that came across at all three fieldwork sites is that adolescents are already able to acquire a range of important transferable skills. However, adolescents, parents and teachers agreed there was a need to enhance the quality of the skills being provided to ensure they are relevant to a rapidly changing world. For example, learning digital skills and foreign languages was repeatedly mentioned by adolescents in all three regions. Adolescents, parents, and teachers believed that adolescents are currently acquiring these skills in some measure, but they emphasised an urgent need for training on transferable skills to be embedded into the current curriculum so that teachers are able to teach these skills so that adolescents are equipped with a wide range of skills for the future.

- Adolescent boys believed that negotiation skills and decision-making skills are the top two transferable skills they lacked. Digital skills were mentioned third. Adolescent girls mentioned digital skills as the top skill they lacked. They listed negotiation skills and decision-making skills second. Other key skills boys and girls felt they lacked included self-confidence, the ability to take risks and the ability to speak in public.

- Adult respondents (particularly parents, teachers, and government officials) referred to the increasing importance of “values” and “moral character” as key skills required for the future. They often used terms such as *akhlaq* and *adab* to describe these qualities. An important point these respondents made was that these skills, combined with strong foundational and technical skills, were what adolescents needed for the future. They explained that this combination would enable adolescents to make better choices and decisions and enable them to manage future challenges.

- While there was broad agreement between parents and teachers regarding what kinds of skills were valuable for the future, there seemed to be tensions between the two actors regarding their expectations of each other. Lack of credible information about future career opportunities and prospects was a challenge highlighted by parents and teachers. Lack of training in 21st Century Skills modules was another key challenge mentioned by parents. Parents put the onus of skills acquisition on schools and teachers. Teachers felt overburdened by their responsibilities and believed parents could be more proactive in instilling transferable skills and values at home. Parents felt their children were burdened with schoolwork, leaving little time to learn new skills. Teachers particularly emphasised that, while the school curriculum had been reformed to include 21st Century Skills, they were not trained to implement this curriculum.

- Government officials particularly emphasised the importance of developing transferable skills for adolescents. Some of the key skills government officials mentioned as being important for the future included digital skills, language skills, communication skills, respect for diversity, tolerance and the ability to adapt and adjust to changing circumstances. A key challenge mentioned by government officials was including these skills into the mainstream curriculum to ensure they are taught well and assessed appropriately.

- Employers and recruitment agents mentioned that the world of work was changing rapidly and, as a result, adolescents need to be equipped with the skills to unlearn and relearn at every stage in their lives. Lifelong learning characterises the workplaces of the future, according to employers, and the key skill adolescents will need is the ability to remain flexible, adaptive, and up to date with workplace requirements. For example, banks have switched to online banking, making knowledge of digital skills key for employment in the banking sector. Similarly, marketing and sales increasingly takes place through online platforms, so knowledge of new technologies is essential.

Employers specifically highlighted the importance of a range of transferable skills as key for the future, including digital skills, language skills, having the 'right attitude to work', communication skills, teamwork, and the 'spirit not to give up'.

What are the implications of the findings from the study?

This chapter attempts to answer this question, initially by discussing the study's research findings in the context of UNICEF's upcoming Global Framework in Section 6.2.

The key findings above suggest that, while adolescents in Indonesia are acquiring a wide range of skills, there is consensus across actors that there is an urgent need to ensure that adolescents across regions have opportunities to develop skills and apply them to real-life situations. While adolescents were aware of the skills they had, they found it difficult to articulate their own personal strengths and weaknesses. Making adolescents more critically aware of the skills they have is vital for them to be able to learn and prepare for the future. There is also a need to strengthen the enablers of skills acquisition even further and remove some of the key social, geographical, financial and psychological barriers to acquiring new skills so that adolescents can realise their potential. The specific policy recommendations proposed in Section 6.3 suggest ideas for achieving these goals.

6.2 Contextualising UNICEF's upcoming Global Framework on Skills

This research was designed in alignment with the UNICEF's upcoming Global Skills Framework. However, in terms of implementing the research, we took an exploratory rather than a confirmatory approach in consultation with UNICEF colleagues to ensure that we did not lead the respondents to think in relation to the Framework. This study did not aim to evaluate UNICEF's upcoming Global Skills Framework or to evaluate or design a programme in alignment with it. Instead, our neutral approach allowed respondents to openly share their thoughts and views regarding how they understood and experienced these terms and concepts.

The findings from the fieldwork have clear implications for the Framework. First, the Framework provides a critical starting point for a comprehensive, holistic approach to skills. Second, however, there is a clear need to be adaptive in the interpretation and implementation of the Framework to ensure local relevance. The use and implementation of the Skills Framework must take an adolescent-centric approach to ensure that it remains relevant and useful in each context. Third, the Framework must be explicit in its representation of skills, including transferrable skills, as interrelated and dynamic, given the multiple meanings and uses of these skills. Fourth, the Framework must allow for the flexibility to accommodate new and/or different skills.

6.2.1 Adaptability and relevance

Our engagement with a wide range of stakeholders across multiple sites has clearly demonstrated that the UNICEF Global Skills Framework is an extremely useful and relevant tool for thinking about youth and skills, including for the future. Most of the skills mentioned by respondents were either directly captured in the UNICEF Framework or were closely related to the themes embodied by the framework.

For instance, almost all respondents mentioned at least one of the skills listed in the four categories of transferrable skills shown above. In particular, adolescents mentioned creativity, entrepreneurship, communication and participation as key skills that they already had as well as ones they wanted to acquire in the future. Respondents also articulated a

number of other skills that were closely related to the skills embodied in the UNICEF Framework, including diligence, persistence, commitment, public speaking, social skills (*kemampuan bersosialisasi*) and self-confidence.

Following the research, our reflection is that the UNICEF Framework has wide relevance. The specific skills selected as part of the Framework embody a wide range of related skills, which together allow for the representation of skills for now and for the future in nuanced ways. It is our observation that almost all respondents, including adolescents, were able to understand the diverse skill sets included in the Framework. They were able to relate to these skills in their own terms and engage with the Framework substantively. As such, the Framework clearly had resonance when introduced in a wide range of contexts and among very diverse stakeholders in Indonesia.

At the same time, our findings suggest a need for clear, unambiguous guidance to accompany the Framework to ensure that regional and local partners (including UNICEF country offices) are empowered to take an adaptive and iterative approach in interpreting and using it. Although our reading of the UNICEF Framework is that it is meant to be used in precisely this way, our experience from other contexts is that such Frameworks can be (mis)used as rigid, fixed terms at the point of implementation.

The need for adaptability became clear to the research team at the early stages of the design phase itself. As discussed at the beginning of this chapter, the issue of language became prominent even in trying to translate the term ‘skills’ in the most accurate, understandable way. After extensive discussions with local researchers, UNICEF colleagues, and adolescents and other respondents, we settled on some terms to best translate the ethos of ‘skills’. However, none of the words or short phrases we adopted in Bahasa Indonesia were exactly right or satisfactory to everyone for communicating the meaning embodied by the term ‘skills’. This was also true for a number of other types and specific kinds of skills.

The Framework itself is nuanced, with some subtle differences distinguishing some skills and categories from others. The issue of language and translation, then, demonstrates how the wrong interpretation or representation of these skills might lead to very different understandings and implementation of the Framework. For example, in discussions with adolescents on skills, adolescents mentioned competency in sports as a skill they had. Similarly, adult respondents repeatedly highlighted the importance of religious and moral values as a key skill for the future, which is not mentioned in UNICEF’s upcoming Global Framework. Communications with representatives of the UNICEF team who were working on UNICEF’s upcoming Global Framework on Skills emphasised that the framework is intended as a guide, and that local cultural norms and priorities should be considered when applying the Framework to specific country contexts.

6.2.2 Skills, and categories of skills, are interrelated

The categorisation of transferrable skills into skills for learning, employability, empowerment, and active citizenship provides some grounding for understanding different types of skills. The field research demonstrated, however, that these categories were not always able to reflect the close interrelationship between the various skills people value and want to pursue.

Language skills, for instance, were regularly noted by respondents as being critical to learning, which in turn could help with acquiring other skills. To ensure basic literacy and numeracy, the availability of teaching and learning materials in the local language (and even dialect) becomes critical, but this cannot always be assumed. Later in life, language can still be important, because the medium of instruction can determine whether adolescents and

young people can access and utilise courses, training, online platforms and other learning opportunities to gain the skills they need for the future.

Adolescents in Indonesia had a wider understanding of what constitutes a foundational or a learning skill. They noted, for instance, that confidence and communication skills are central to functioning in any other sphere and that without them they could not become entrepreneurs, gain dignified employment, feel empowered or assume their roles as active citizens; the simple tasks of speaking up, asking questions, or asserting themselves would be beyond them without confidence and self-belief. From their perspective, then, it was important to be conscious of what skills are important and how, rather than the category into which the specific skill fits in.

6.2.3 Flexibility to accommodate new range of skills

The respondents could usually relate meaningfully to the skills listed in the UNICEF Framework but, although many of the skills they mentioned could be interpreted as broadly falling under the wider umbrella of skills already represented by the Framework, some appeared to go beyond it.

As discussed in an earlier chapter, concepts such as piety and religious values were considered as essential skills for adolescents, especially by parents and teachers. Parents and teachers were keen to ensure that adolescents remain rooted in religious and moral values, while acquiring new skills for the future. Religion plays a central role in the lives of a vast majority of Indonesians, so associated values were considered significant for any adolescent to succeed in that context. While the nature of the context itself might differ in other countries, this highlights the need for the Framework to allow for the integration of additional skills based on each context.

From the perspective of adolescents, sports-related skills were the most usual skills reported as ones they wanted to possess. They often tied these to feelings related to confidence and a sense of purpose and belonging, which could be considered as being related to transferrable skills. At the same time, the intensity and regularity with which adolescents reported sports skills demonstrates the value sports plays in their lives.

These skills presented here are meant to be illustrative rather than exhaustive. Each country and each context is bound to be different. The Framework does an excellent job of summarising and categorising skills in a theoretically sound and practically relevant way. The findings from Indonesia demonstrates both the strengths and the potential limitations of the Framework. The Framework is not intended as a prescriptive guide, but clear, strong and regular messaging around its potential limitations and possible mitigating approaches could provide greater support in implementing relevant programmes at the local levels.

6.3 Policy recommendations

This research study was conducted with the purpose of providing policy recommendations to two major actors: UNICEF and the Government of Indonesia. This section presents the context for action and provides an overview of how different multilateral organisations are approaching the theme of skills for the future. We then present policy recommendations aligned to the key findings of the study.

6.3.1 The context for action

Globally, ‘skills for the future’ has emerged as a major policy priority for governments and bilateral and multilateral organisations. Different organisations have been addressing the

challenges of skills for the future and the future of work from different vantage points. A brief overview of some of the areas of focus of these organisations is highlighted below.

- The ILO set up a Global Commission on the Future of Work in 2016. It launched a Future of Work initiative in 2017 in the lead up to its centenary in 2019. This initiative specifically focuses on the implications of changes in the workplace on skills development and decent work.
- OECD has launched a Future of Work research programme in 2018 to understand some of the key drivers of change and identify current and workplace requirements across sectors. A major focus area for OECD is the impact on technological change and automation on employment.[27]
- The World Economic Forum has launched a multi-country study on the Future of Production, with a specific focus on the implications of new production systems on skills and jobs. This work takes a sectoral view on the future of work and focuses on specific sectors and roles that will be affected by technological change in different countries.[28]
- The World Bank's World Development Report 2019 is devoted to the theme of the future of work, highlighting the importance of this theme in current policy circles.[2] The focus of this report is on the changing nature of work as a result of technological change.
- UNESCO's Education Working Group has been proactively discussing the theme of education for the future. In the latest Working Group Meeting in April 2019, the group emphasised the need to identify the key skills required to ensure the full integration of citizens into the labour market and ensure lifelong learning.[29]
- In September 2018, a global platform called Generation Unlimited (Gen-U) was launched by UNICEF and its partners with the aim of ensuring that every young person is in education, training or employment by 2030. This partnership brings representatives from the United Nations, government, private sector and international organisations together to help young people maximise their potential[30].

All these initiatives explore the theme of the future of work from different vantage points. While the World Bank, OECD, and The World Economic Forum focus on the changing nature of work and the workplace, the ILO's focus is on ensuring changing forms of work provide opportunities for skills upgradation and decent work. UNESCO and UNICEF take a more holistic, human-centric approach focusing on adolescents and youth and the skills young people need, not only for a rapidly changing world of work, but also for their personal lives.

UNICEF's focus is specifically on the most marginalised children and adolescents. The focus on adolescents is important. As adolescence is a crucial stage of skills acquisition, interventions in this phase can play an important role in ensuring that individuals are well equipped to manage the transition from adolescence into adulthood. Moreover, UNICEF's perspective takes a multidimensional view of skills, focusing on the diverse sets of foundational, technical, transferable and digital skills adolescents will need to successfully transition from childhood into adulthood. The focus is on skills for employability, which have dominated the debates on the future of work, but also on ensuring that adolescents have key transferable skills enabling them to manage shocks and risks and make informed choices in their personal and professional lives.

[27] www.oecd.org/employment/future-of-work/.
[28] www.weforum.org/system-initiatives/shaping-the-future-of-production.
[29] https://en.unesco.org/news/unesco-g20-promoting-policies-shape-future-education-life-and-work.
[30] www.generationunlimited.org

Globally, UNICEF could add value to existing initiatives on skills for the future by:

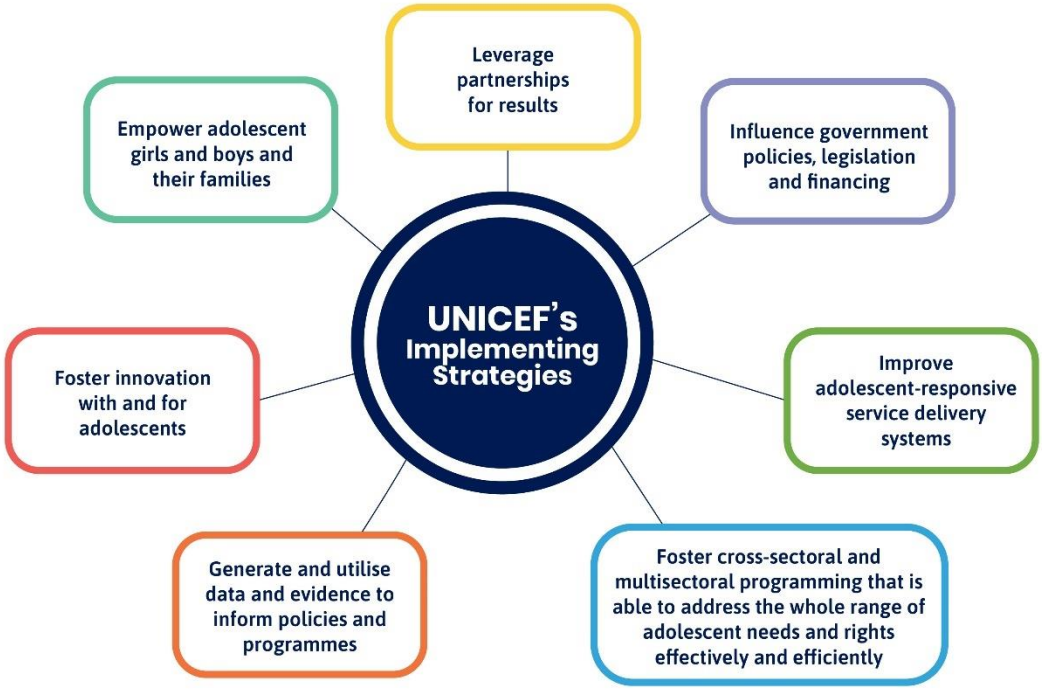
- Focusing on the multidimensional skills challenges (including skills gaps, aspirations gaps and information gaps) that adolescents face, with a specific focus on adolescents from the most marginalised groups;
- Integrating UNICEF's upcoming Global Framework on Skills into educational assessment systems to ensure that acquisition of foundational skills, transferable skills, technical skills and digital skills are part of the learning outcomes of education systems;
- Supporting the development of competency frameworks for measuring and assessing diverse transferable skills, with a focus on adolescents; and,
- Supporting linkages between UNICEF's work and other global initiatives mentioned above.

6.3.2 Policy recommendations for UNICEF Indonesia

Based on the findings from this research, we present specific policy recommendations for UNICEF Indonesia to support adolescents to acquire skills for the future and use them effectively.

UNICEF's implementation strategies (as specified in UNICEF's *Programme Guidelines 2018*) focus on six key areas. The policy recommendations presented in this section are organised to align with each of the focus areas mentioned in UNICEF's implementation strategies (as depicted in Figure 17). In addition, each of the policy recommendation that is suggested in this section responds to specific findings from the study. Therefore, this section highlights the specific findings from the study and suggests specific policy recommendations to address each of these findings.

Figure 16. UNICEF's implementing strategies



Source: adapted from UNICEF's Programme Guidelines (2018)

Some of the key policy recommendations for UNICEF are summarised below.

6.3.2.1 Foster innovation, with and for adolescents

Findings being addressed:

- Access to information, guidance, and mentors was a challenge that hinders adolescents from achieving their goals. A significant proportion of adolescent respondents in Jakarta and Semarang aspire to become entrepreneurs and associate this with glamour, wealth, and prestige. They nevertheless lack a full understanding of what it means to become an entrepreneur. While some adolescents in Jakarta and Semarang have more information and opportunities to develop specific skills for entrepreneurship (such as coding, learning about online marketing platforms, financial management, etc.), not all adolescents have access to this information. In Sorong, not all adolescents have access to mentors and role models who could guide them to achieve their aspirations.
- Competitions were mentioned by adolescents, parents, and teachers as key enablers of skills acquisition. Competitions usually take place for extracurricular activities such as sports, music, or dance. Adolescents who participated in the group discussions had a number of innovative ideas but lacked the opportunities to showcase them. Could competitions also be used as a means to identify talent and assess the creativity and critical thinking skills of adolescents?
- Lack of contextualised skills development strategies that address the needs of the different regions in Indonesia.

Some key recommendations to address these findings include the following:

- Help develop the capacity of adolescents in building their entrepreneurship skills, including enabling adolescents to understand the opportunities and risks involved in setting up a business. A large number of adolescents mentioned that they were keen to become entrepreneurs and these aspirations were also shared by parents and teachers. Nevertheless, there remains a major gap in understanding regarding what an entrepreneur actually does and what skills they need to start and succeed as an entrepreneur**.**
- Involve adolescents in curriculum development, in social innovation and programme development to enable them to collectively find solutions to issues affecting them. This will enable them to hone their critical thinking and technical skills and, at the same time, help them to contribute to the development of their communities. Such opportunities could be open to adolescents in formal education, non-formal schools and to adolescents who are out-of-school. These opportunities could also help adolescent girls and boys build wider, more diverse networks which could help them realise their aspirations of becoming entrepreneurs, commercialise an innovation or acquire new skills for the future.

6.3.2.2 Empower adolescent boys and girls and their families

Findings being addressed:

- A lack of information about the skills that are important for the future was an important point mentioned by adolescents, parents, and teachers. Adolescents and parents often relied on their own social networks to obtain information regarding what skills need to be acquired. In well-connected regions, such as Jakarta and Semarang, parents and teachers were well-informed. Adolescents in Sorong, however, not only had limited opportunities and access to information, but also less informed parents and teachers. This was a key constraint faced by adolescents.
- Parents and teachers found it challenging to use digital technologies and were unable to judge the credibility of information provided online. This also widened the gap between adolescents and adults. How can parents and teachers be made more aware about using technology and understanding the challenges and risks of digital technologies?
- While Indonesia has attained high rates of school enrolment, learning outcomes remain low. Weak foundational skills hinder the ability of adolescents to learn new skills effectively. This particularly affects vulnerable adolescents, such as OOSC or adolescents with disabilities. How can school education systems effectively strengthen learning outcomes and ensure that adolescents are equipped with the right combination of foundational skills, transferable skills, technical skills, and digital skills to meet the challenges of the future?
- Transferable skills emerged as a key area to develop for adolescents in the future, according to adolescents, parents, teachers, employers, recruitment agents and government officials. A wide range of transferable skills were mentioned by adolescents as important for the future, including IT skills, foreign language skills (particularly English language skills), creativity, confidence, perseverance, public speaking skills, and social skills (*kemampuan bersosialisasi*). Interestingly, a majority of adolescents felt they had some of these skills already but were keen to develop them even further. During the U-Report poll, adolescents mentioned creativity, cooperation, and respect for diversity as the top three skills they will need for the future.
- Digital skills were cited as key for the future. How can both boys and girls be trained in how digital skills are applied in real-world contexts?
- While adult respondents expressed that boys and girls must have equal opportunities and choices, there remained clear gender biases and stereotypes. Parents sometimes had different expectations of boys and girls. How can adolescent boys and girls be guaranteed the freedom to make the life choices that they value?

Some recommendations to address the above findings are as follows:

- Create an online resource for adolescent girls and boys, which will provide accurate information on a range of skills training courses available and the credible institutions/channels through which such skills can be obtained. Online or mobile phone training modules could be useful in teaching new skills (such as communication skills, creativity, social skills, and digital skills) to adolescents and will also familiarise them with

taking up online training. Exposure to online training platforms from adolescence will also ensure that they are able to easily adapt to online training modules at the at the workplace and continue to upgrade their skills.

- Design training programmes for parents and teachers to help them support adolescents navigate technological change. UNICEF can help develop relevant teaching and learning tools for parents, teachers and students in an interactive and interesting format to understand technology and adapt to technological change. A proper dissemination plan, including training or workshop for parents and teachers, needs to be developed carefully to ensure the effective implementation of these tools. UNICEF can also promote the uptake of the tools by schools and PKBMs to be included in their daily teaching activities.
- Strengthen the system of providing teachers with the skills and information to provide career counselling to adolescents to understand the wide variety of employment opportunities that are possible. This is particularly essential in remote locations such as Sorong. This could be done by strengthening capacity building for counselling teachers, to enable them to play a key role in bridging aspiration gaps and information gaps. This can open up access to information on possible career pathways and will enable adolescents to make informed choices about their future as well as understand what kinds of skills will be needed for the future.
- Ensure that all future programming has an explicit inclusion component, including providing training programmes and mentorship opportunities to help OOSC re-enter formal education systems or acquire job-specific skills to help fulfil their aspirations. For instance, the PKBM has been seen by parents as a positive avenue for adolescents who are out-of-school to re-enter formal education systems. Our study shows that most PKBMs are largely focused on school certification and academic subjects, despite the demand to supplement them with technical and job-specific skills. UNICEF could provide further support to selected PKBMs in identifying the skills needed in each area, supporting PKBMs to develop this programme.

6.3.2.3 Influence government policies, legislation, and financing

Findings being addressed:

- This study brought out the importance of a range of transferable skills as key skills for the future. While some of these skills are taught in school as part of the 21st Century Skills component of the curriculum, parents and teachers mentioned that adolescents are not taught how to apply these skills in real-world contexts.
- Teachers mentioned that, while 21st Century Skills are part of the school curriculum, they face two key challenges in implementing it. First, they are not trained in how to implement this curriculum in the classroom. Second, they found it challenging to assess the transferable skills adolescents have, as these skills are difficult to measure.
- Employers and recruitment agents emphasise that lifelong learning is essential for the future. How the can the education system be reconfigured to ensure multiple learning pathways for adolescents and adults?
- Strengthening alternative learning platforms to foster active learning by adolescents. Adolescent respondents highlighted their preference for learning through more

informal platforms such as extracurricular activities, as opposed to the more rigid environment in the classroom.

Some specific recommendations for UNICEF to address the above findings are as follows:

- Collaborate with the Government of Indonesia to create a competency framework for assessing 21st Century Skills and incorporate this assessment system into the mainstream school and TVET curriculum. This will ensure that adolescents are assessed on a wide range of skills and competencies beyond just literacy and numeracy.
- Support the government to improve the capacity of teachers to apply 21st Century Skills into their teaching activities. Teachers acknowledge that 21st Century Skills (such as communication, critical thinking, collaboration, and creativity) have now been integrated as part of the revised K-13 curriculum, but there is limited guidance (if any) on how to deliver these skills; so their application is very subjective. When adolescents were asked where they acquired transferable skills, they often referred to real-life situations such as playing sports, attending competitions, or participating in extracurricular activities. UNICEF can help improve the training modules of 21st Century Skills and transferable skills within the teacher training programmes so that teachers are equipped with the pedagogy to teach these skills to adolescents. UNICEF could support the development of tools and materials that meet the standards and requirements set forth in the UNICEF Skills Framework (as well as other relevant frameworks), then leverage government partnerships to deliver this to scale.

6.3.2.4 Integrated adolescent voices in strengthening learning opportunities

Findings being addressed:

- The school and formal institutions remain the primary channel through which adolescents acquire new skills. However, there was a perception among adolescents, parents and teachers that the schooling system alone is not sufficient to address the diverse skills requirements of the future. Some adolescents, parents and employers mentioned a gap between the skills taught in school and the skills needed for life. For example, communication skills, decision making skills and creativity were not examples of skills that adolescents learned within schools but through informal interactions with their peers. How can digital platforms, systems of peer learning and mentorship be leveraged to provide adolescents with access to the diverse skills they need for the future?

Some specific recommendations to address the above findings are as follows:

- Ensure that all skills development programmes include adolescents and other relevant stakeholders from the design process itself to ensure compatibility and relevance from the beginning.

- Design and implement training programmes for teachers to teach children with learning disabilities and special needs. This can be embedded through pre-service and in-service training provided through teacher training institutions.
- Technology-based tools/delivery platforms can be used to enhance access to information for adolescents and drive interventions in the areas mentioned above.

6.3.2.5 Foster cross-sectoral and multi-sectoral programming capable of addressing the whole range of adolescent needs and rights effectively, and efficiently

Findings being addressed:

- Skills are multidimensional. There are diverse channels to acquire them. However, not all channels are being leveraged effectively to maximise the potential of adolescents. How can the home, peer networks, employers, entrepreneurs and businesses connect better with adolescents? How can adolescents be better exposed to real work or real-life situations?

Some specific recommendations to address the above findings are as follows:

- Provide adolescents with access to information to make informed choices about some of the key aspects of their lives. This would be consistent with the ethos behind the Global Skills Framework in focusing on complexity and comprehensiveness, even if it is time-consuming, resource-intensive and difficult to implement. Such an approach would focus not only on education, but also on health and wellbeing, skills and employability and active citizenship.
- Develop multi-stakeholder partnerships to support vocational schools and training institutions to improve knowledge about the world of work and reduce the skills mismatch in the labour market. Discussions with training centres, employers and government officials (local and national) revealed that SMK graduates still lack technical skills and their competencies do not match employer needs. Since industry has a particular culture, existing providers should ensure that they provide their trainees and students with the skills they need to prosper in these institutions. As such, strong collaborations between schools, training institutions, local government and employers are needed. UNICEF, together with key partners in this sector, could play a key role in anchoring such multi-stakeholder partnerships.

6.3.2.6 Generate and utilise data and evidence to inform policies and programmes

Finding being addressed:

- Government officials, parents and teachers also mentioned that there is limited data on the skills that adolescents currently have. While adolescents are assessed on foundational skills or technical skills, the transferable skills adolescents have are not well assessed. As a result, there is limited data to inform policy.

Some specific recommendations to address the above findings are as follows:

- Integrate skills components into regular Government data collection systems. This will enable the Government to have baseline data, to have a clear understanding of the situation in Indonesia and to use it as a basis for future strategies and plans.
- Generate evidence from adolescents to understand their aspirations and perspectives on the future by leveraging tools such as U-Report or online platforms. UNICEF's U-Reporters are a valuable resource for obtaining quick feedback from adolescents on specific policy interventions. These online tools could be leveraged to create effective adolescent-centric policy and programme interventions.
- Ensure the timely dissemination of findings from this and other research. Given UNICEF's comparative advantage in leading research activities, there is a clear opportunity to leverage the findings from global as well as local research to inform policy design and implementation. Targeted, regular dissemination of these findings to key stakeholders in decision making roles should take place.

6.3.2.7 Leverage partnerships for results

Adolescence is a crucial stage for skills acquisition, but the focus of key institutions working on skills development (such as the ILO, the World Bank, NGOs, the private sector, etc.) has largely been on providing skills development for adult learners. UNICEF, with its focus on adolescents from the most marginalised groups, will have an important role to play in emphasising the skills gaps that adolescents possess and developing responsive, adolescent-centric solutions to overcome these challenges. A global partnership between UNICEF and other actors (such as the private sector and other agencies such as, ILO, the World Bank, OECD, and UNESCO) will help find holistic solutions for the challenges of skills for the future for both adolescent and adult learners. In addition, existing partnerships such as UNICEF's Generation Unlimited programmes, can be leveraged to focus specifically on addressing the skills challenges of adolescents at the country level.

This study also demonstrates that transferable skills form a crucial set of skills that adolescents need for the future, and adolescence is the right stage to acquire these skills. Therefore, UNICEF can play an important role in helping adolescents acquire a range of transferable skills to enable them to maximise their potential in their personal and professional lives.

Schools are currently the main channel through which adolescents acquire skills. Hence, the school can be the key unit through which UNICEF's interventions are implemented. However, we suggest that UNICEF's programming also focuses on equipping key actors such as parents and teachers with information and awareness so that they can mentor adolescents and enable them to successfully acquire the broad range of skills they will need as they transition from childhood to adulthood.

We are aware that programming decisions involve choices, given the time and resource constraints any organisation faces in designing and implementing their work. We recognise that not all recommendations even in this report might be accessible, at least in the first instance. As such, there is a clear need to ensure close partnerships with various government and international organisations and NGOs.

Some examples of potential actors that UNICEF could partner with are:

- Key employers in Indonesia: to organise two to three-month internship programmes or work placement opportunities for adolescents to sensitise them to the work environment;

- Industry associations or entrepreneur networks: to provide those who aspire to be entrepreneurs a chance to be mentored by entrepreneurs;
- The ILO: to strengthen apprenticeship training programmes with a specific focus on providing OOSC with access to skills for employability and entrepreneurship; and
- The Government of Indonesia (as highlighted in the section below).

6.4 Key policy recommendations for the Government of Indonesia

To be finalised

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