

Process Evaluation of the School Innovation Challenge Programme in Telangana, India

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ACRONYMS

AFO	UNICEF Hyderabad office
BC	Backward Classes
CEDAW	Committee on the Elimination of Discrimination against Women
C4ED	Center for Evaluation and Development
CP	Child Protection
CRC	Committee on the Rights of the Child (CRC)
DAC	Development Assistance Committee
DEO	District Education Officer
DoE	Department of Education
DoIT	Department of Information and Technology
DSO	District Science Officer
ERIC	Ethical Research Involving Children
FGDs	Focus Group Discussions
HML IRB	Human Subjects Research Ethic Approval
HS	Government High Schools
ICO	India Country Office
ICT	Information Communication Technology
KIIs	Key-Informant Interviews
KGBV	Kasturba Gandhi Balika Vidyalaya
MAXQDA	Max Qualitative Data Analysis
OECD	Organization for Economic Co-operation and Development
OEC-DAC	Organization for Economic Co-operation and Development Assistance Committee
ROSA	Regional Office for South Asia
SDG	Sustainable Development Goal
SIC	School Innovation Challenge
SW	Social Welfare
TMREIS	Telangana Minority Residential School
TOC	Theory of Change
TOT	Training of Trainers
TSIC	Telangana State Innovation Cell
TSWREIS	Telangana Social Welfare Residential Educational Institutions Society
UNICEF	United Nations Children's Fund
UP / UPS	Upper Primary / Upper Primary School

Executive Summary

PROGRAMME OVERVIEW

UPSHIFT is a programme under the UNICEF Global Youth Innovation Portfolio, offering an accelerated learning experience combining mentorship, workshops, and an entrepreneurial challenge to equip youth with essential life skills, such as empathy, critical thinking, problem-solving, cooperation, decision making, resilience, entrepreneurial spirit, and a growth mindset. In India, UPSHIFT powered by UNISOLVE was initially piloted in 2019 and then again in 2020 to support operationalizing the Indian government vision of 'one innovator per family'.

This process evaluation focuses specifically on the deployment of UPSHIFT powered by UNISOLVE in Telangana through the School Innovation Challenge (SIC) initiative in secondary and upper primary schools, assessing the full programme cycle as of March 2023. The initiative was launched through a collaborative effort between UNICEF, YuWaah (Generation Unlimited at UNICEF), Telangana state authorities and the Inqui-Lab Foundation.

Students participating in the SIC engage in a self-paced, gamified online course through the UNISOLVE platform. Guided by a focal teacher and grouped in teams, they progress through six thematic modules, each comprising videos, reflective questions, quizzes, additional reading material and worksheets. These modules feature cartoon characters resembling the students, who embark on problem-solving missions. Participants learn problem-solving techniques, such as idea generation and prototyping, rooted in human-centered design principles, and they are encouraged to apply them to identify problems in their communities and develop solutions.

At the end of the learning journey, teams submit one project idea through the UNISOLVE platform, with promising ideas receiving mentorship and financial support for implementation. Winning projects are celebrated at a public event, fostering a sense of accomplishment and recognition among students, implementers and government authorities.

EVALUATION PURPOSE, OBJECTIVES, AND INTENDED AUDIENCE

The purpose of the evaluation is to promote knowledge within UNICEF and build its technical capacity by leveraging external technical expertise. The objective of this evaluation is to provide an independent assessment of UPSHIFT powered by UNISOLVE and its deployment through the government-led SIC initiative, and to assess its relevance, effectiveness, coherence and sustainability for achieving adolescent learning outcomes in Telangana, India, while identifying factors influencing its uptake and effectiveness. The report aims to assess challenges faced, extract lessons learned, and offer recommendations on changes needed for the continued implementation of SIC in Telangana, and for its roll-out to other Indian states and other countries in South Asia. The intended audience includes UNICEF Regional Office for South Asia (ROSA), UNICEF India Country Office (ICO), and stakeholders involved in the programme design and implementation. The findings are valuable for advocating enhanced programme use and innovative solutions within UNICEF, and for informing youth learning initiatives across South Asia.

EVALUATION METHODOLOGY

The process evaluation of the Telangana SIC builds upon the criteria of relevance, effectiveness, sustainability and coherence established by the Development Assistance Committee of the Organization for Economic Cooperation and Development (OECD).

The evaluation uses an embedded mixed-method design, with a predominant component of qualitative methods, complemented by the analysis of quantitative secondary data generated by the programme. Qualitative research focused on primary data collected through focus group discussions and key informant interviews (KIIs) with programme participants and implementers, conducted both in person and remotely between March and April of 2023. The primary data collection was complemented by a desk review of programme documents and other relevant literature on the programme, and of Telangana's education system.

KEY CONCLUSIONS BASED ON THE REPORT'S FINDINGS

- **Uptake of the programme** was high, thanks to the successful identification and tapping of the appropriate actors, structures, and communication channels, the sensitization of key decision makers, and the programme's design of a mobile-friendly platform in a context of limited resources. Overall, **most stakeholders view SIC as valuable and innovative.**
- **There was a high completion rate of the learning journey among rights-holders.** Despite some challenges, 75 per cent of registered teams finished the course and submitted ideas. **Schools with the most limited resources (government and KGBV) demonstrated a high idea submission rate**, higher than or comparable to schools with better funding, pointing to successful coping mechanisms, high teacher and student motivation, and the effect of DoE engagement for course completion. The programme also showed high participation of girls.
- **The UNISOLVE platform content was highly relevant and engaging for its target audience of adolescent rights-holders.** Characters and issues shown in the video were successfully adapted to the students' everyday realities, and most students found the course content easy to understand. Yet some challenges emerged with some difficult terminology, and a limited awareness of the Telegu content availability among some school actors and students.
- **The platform's design as both web- and mobile- responsive, with reportedly low bandwidth, was a key contextual adaptation for ensuring programme uptake.** Further, district-level WhatsApp groups proved valuable in supporting teachers facing daily technical challenges throughout implementation. Yet some challenges linked to buffering and bugs remained.
- **Most participants consulted in this evaluation faced significant challenges due to limited access to digital devices, poor connectivity, and insufficient time within school schedules.** These issues hindered their ability to fully engage with the course content, grasp concepts, and complete assignments on time.
- **Teachers were a 'driving force' behind the programme.** Their active engagement, motivation, and willingness to contribute their own time and material resources were key to bridging the infrastructural gaps and enabling programme implementation. However, the high demands placed on teachers have caused growing discomfort and burnout. If their engagement continues being taken for granted and measures are not put in place to address and alleviate their burden, **the programme's heavy dependence on teacher availability and resource provision is a clear risk factor to its sustainability.**
- **The teacher training was considered useful but insufficient.** Technical issues continued hindering some teachers' progress, evidencing the need for further capacity building. A preference for longer and offline training was evident.
- **The evaluation found positive emerging trends in terms of rights-holders' knowledge and skill acquisition**, including enhanced creative thinking, teamwork, problem solving and communication skills, as well as increased awareness of social problems and confidence in devising solutions for them. However, there was **less evidence of students applying their skills to solve community problems** on a larger scale.
- **Student projects reflect the skills and knowledge acquired through the UPSHIFT course**, yet the data available prevents us from assessing the extent to which these skills were sufficient to design and submit quality projects. Nevertheless, the learning journey that SIC offers to students was deemed highly valuable by most participants and stakeholders.

- In its current form, **the programme presents some limitations to inclusion and equity**:
 - The criteria used by schools to select student participants prioritized those with certain pre-existing skills and behavioral traits, leaving others behind.
 - Students' experience and satisfaction with the programme starkly contrasted based on the material resources at their disposal, which varied across school types and, at times, family backgrounds.
 - The impact of resource scarcity on students' experience with SIC was particularly detrimental for those with varying capabilities, who require more time, focus, and support to access and grasp the course material, and complete its components.
- The evaluation detected some issues regarding programme delivery, which need to be factored, including **limited visibility of implementing actors** at some levels, **communication gaps between stakeholders**, and **DoE ownership** concerns.
- **The programme's synergies within the state educational context are limited**, lacking convergence and at times 'competing' with existing science and innovation initiatives in terms of school schedules, and DoE's priorities and oversight.
- To achieve its full potential, the programme should take proactive steps to address the abovementioned weaknesses and risks, by effectively **implementing planned adjustments and making necessary improvements, aligned with the identified requirements, suggestions and demands of the participants and other stakeholders**.

LESSONS LEARNED

- Information Communication Technology (ICT) can be a useful tool for engaging and facilitating the delivery of impactful learning for students and teachers across ages and school contexts in Telangana/India, even in contexts of limited ICT exposure and access, when appropriate channels (i.e., mobile-responsive tech) and targeted support are provided.
- Upskilling programmes facilitated by ICTs can be delivered even when education institutions have limited interest and exposure to ICTs within their mandates, so long as there is appropriate stakeholder engagement and buy-in, and feasible technological delivery.
- Addressing unequal access via appropriate support measures is crucial for preventing already existing vulnerabilities and divides from being perpetuated (or potentiated) by the ICT-based upskilling programme.
- Adolescents' confidence, self-efficacy and social consciousness seem to be positively influenced by assignments fostering independent thinking and design of responses to community challenges.
- Systematically and objectively tracking learning outcomes in an upskilling programme is fundamental to ensure that adolescents are meeting their learning potential.
- School-based upskilling programmes need to ensure that their goals and target beneficiaries are clear and programmatic strategies devised accordingly, depending on whether they aim at maximizing talented students' learning potential, or at involving all student typologies, with a 'leave no one behind approach' – particularly in a context of limited resources.

RECOMMENDATIONS

Strategic recommendations

Recommendation 1: Collaboratively develop programme 'Theory of Change' to clarify intermediate and final goals as well as pathways to achievement, ensure that potential risks can be factored in and planned for, and monitor progress accordingly to allow for more systematic future evaluations.

Recommendation 2: Clarify the programme's 'mindset' regarding innovation and its links to entrepreneurship, and decide whether a broader

focus can contribute to delivering programme goals – i.e., allowing for a wider set of skills development and community participation. Explore the possibilities of the concept of innovation beyond the current science/technology imprint, and the development of ‘model’ ideas for community problems beyond material-based solutions with ‘marketable’ potential that can be prototyped.

Recommendation 3: Strengthen the programme’s coherence in the educational context of Telangana, by continuing to advocate for longer-term systemic change (featuring SIC in the curriculum), while in the meantime seeking better clarification of programme objectives and coordinating with other science/innovation initiatives to identify complementarities and gaps.

Operational recommendations

Recommendation 1: Introduce further adjustments to the platform and content to enhance relevance and address student knowledge gaps, including revision of: wording for reflective questions and additional reading material; visibility of Telegu option; registering and log-in processes; stronger compatibility with low band-width; and the addition of inclusive features.

Recommendation 2: Address programme access and connectivity challenges by adjusting the programme’s format and delivery, either by deploying a hybrid model or by taking alternative measures to support schools in infrastructure and connectivity.

Recommendation 3: Review rights-holder selection and participation approach if the aim is to promote equitable access. A clear system should be adopted (and monitored) if students are to be selected according to equal opportunities and not based on their previous skills.

Recommendation 4: Review and adjust teacher guidance and support mechanisms to ensure better accessibility and support for rights-holders in the school context, including taking measures for

ensuring that support is provided within the school context, and exploring options for allowing dedicated time and resources for programme implementation.

Recommendation 5: Expand teacher training and continue to provide it in-person (in addition to continuing with online support mechanisms). Maintain in-person teacher training to overcome the digital divide (while also keeping follow-up online support), provide longer and more in-depth training to boost capacities in student guidance and facilitation, ensure that all teachers receive training and explore options for certification.

Recommendation 6: Address focal teacher workload burden and take further measures to promote teacher support and recognition. Within the programme’s reach, options include ensuring an early programme launch, revising the course’s time window, establishing a teacher community of practice, developing systematic teacher feedback loops and offering incentives and recognition. In coordination with DoE, options include requesting allocation of specific time slots/spaces for SIC and involving more than one teacher per school.

Recommendation 7: Increase involvement and enhance ownership of other district and school-level actors to ensure more support is provided to the programme; this includes targeting principals to become programme ambassadors, mobilize resources, and promote greater involvement of DSOs in the oversight of the programme’s process.

Recommendation 8: Strengthen monitoring mechanisms to improve understanding of outputs and outcomes, as well as key barriers to implementation. This includes: implementing extensive baseline/endline student and teacher surveys to ensure comparability of results; developing mechanisms to systematically collect participant feedback, document challenges (i.e., drop-out reasons), and strategies; introducing individual student tracking systems regarding access and utilization of course components; and designing a rigorous impact evaluation.

Evaluation Background

COUNTRY AND STATE CONTEXT

With a population of over 1.4 billion, India has recently become the world's most populous country. India is also home to the largest youth population globally, with around 65 per cent of its population being under the age of 35. The youth in India are drivers of social progress and economic growth. Despite significant challenges to be overcome, the Indian government, along with the private sector and civil society, is investing in education to create opportunities for young people to learn, grow, and make an impact. The National Education Policy, introduced in India in 2020 (Ministry of Human Resource Development, 2020) aims to transform the country's education system, emphasizing the need for a holistic approach that develops both academic and life skills – such as critical thinking, problem solving, creativity and teamwork – and promoting the use of technology and innovative teaching methods to enhance learning outcomes. This was particularly relevant in the context of the recent Covid-19 pandemic, which had a strong impact on Indian schools, as it did in many other countries. More than 20,000 schools closed (most of them public), and the crisis led to a fall in school enrolment. Additionally, the number of teachers in 2021/22 decreased by 1.95 per cent as compared to 2020/21.

Telangana, in south-central India, is the Indian state where the evaluation was based. Telangana has been ranked sixth in the SDG India Index 2020/21 report, scoring 69 out of 100 points (slightly above the national average of 66) (NITI Aayog, 2021). This was a slight improvement from the previous year, when it ranked 67. Telangana has shown significant progress in certain areas, including SDG6 (Clean Water and Sanitation), with 100 per cent of its rural population accessing drinking water within their premises through piped water supply, and all households in the state having individual toilets, and in SDG 7 (Clean Energy), where the state scored 100 points. However, Telangana has shown poor performance in other goals, including gender equality (with a 41 score) and zero hunger (50 points). The state's economy has grown steadily since its formation, with its contribution to India's nominal GDP increasing from 4.1 per cent to 4.9 per cent between 2014/15 and 2022/23 (Government of Telangana, 2023). However, one of the key challenges for the state is spreading prosperity beyond Hyderabad and towards its interior (Times of India, 2023).

In terms of education policy, the Telangana state decided to implement the National Education Policy 2020 (NEP 2020) and has allocated significant funds to the education sector. In 2022/23, the state government allocated Rs 16,043 crore (compared to Rs 15,608 crore the previous year) (UNESCO, 2023). Telangana state also offers substantial investments in higher education through scholarships, including state-funded TS scholarships for scheduled caste (SC)-scheduled tribe (ST), persons with disabilities (PwD), general, 'backward class' (BC)-'economically backward class' (EBC) and minority student categories to pursue higher education without financial constraints; the Telangana Pre-Matric Scholarships for SC/ST/BC/Disabled categories studying in Classes 9–10, and the Post-Matric Scholarships for the same categories for students who have passed Class 10.

However, the state faces several challenges in the education sector. The literacy rate in Telangana at 66.54 per cent is less than the 72.98 per cent India average as per the 2011 census (Government of Telangana, 2011). Also, there is a wide gap (24 per cent) in literacy rates between urban and rural areas, and significant differences between male (75 per cent) and female (57.9 per cent) literacy levels (Government of Telangana, 2019). The digital gender gap is significant, amounting to 30 per cent, with Telangana featuring in the top three states with the highest gender gap in internet access (Samudra, 2022). The state also lags in creating infrastructure and facilities for school education, ranking 21st in the country (NITI Aayog, 2021).

The education landscape in Telangana is diverse, with a variety of school types catering to different sections of society. These include government schools, private schools, international schools, special needs schools, social welfare, and tribal schools. Government schools form the backbone of the state education system, and Telangana has been investing in these, with a focus on improving infrastructure and ensuring comprehensive development of schools. In 2022, according to the Telangana Education Minister, the state allocated Rs 7,289 crore to strengthen the school education system (The New Indian Express, 2022).

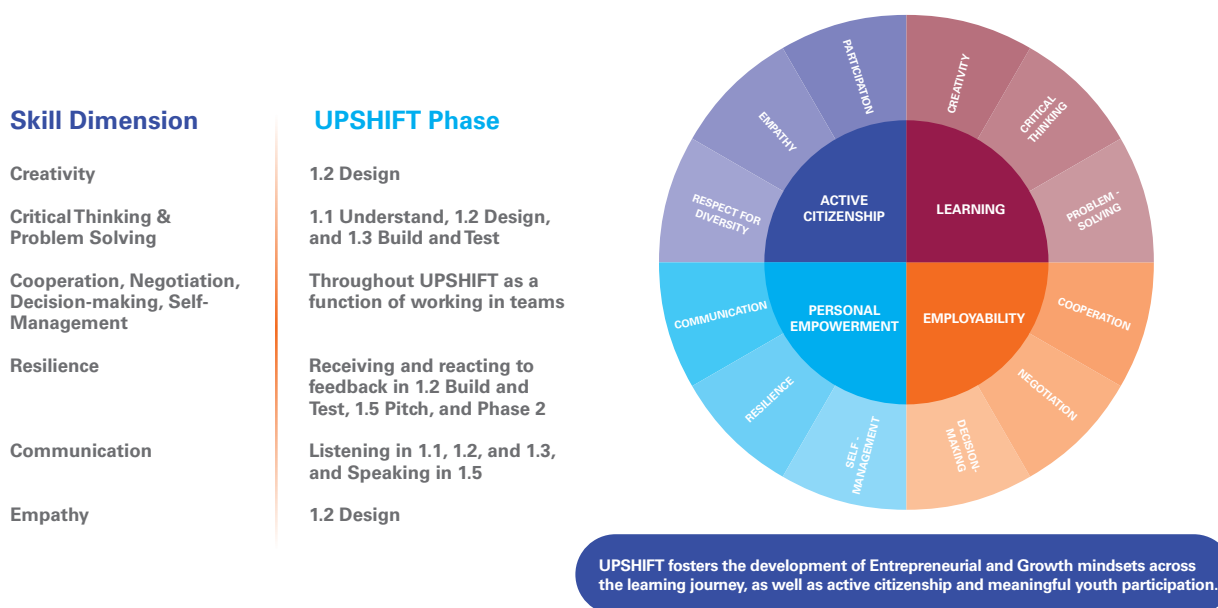
Social welfare schools have been trying to improve living standards for the SC students, by providing sustainable education in English medium, with around 150,000 students in 268 institutions (Telangana Social Welfare Residential Educational Institutions Society (TSWREIS), 2021). Key challenges in these schools include the need for more resources and better infrastructure. The same concerns have been voiced regarding special needs schools, which cater for students with disabilities, and tribal schools, which seek to provide quality upper primary, secondary, and senior secondary level education (Class 6 to 12) to ST students in remote areas. Common challenges in these institutions include the lack of infrastructure and the need for more trained teachers (Times of India, 2022)¹.

In this varied and challenging context, UPSHIFT powered by UNISOLVE was implemented in a collaborative effort involving UNICEF, Inqui-Lab Foundation, and the educational authorities of the Telangana State in India, and deployed through the SIC initiative, with the aim of providing opportunities for adolescent students at Telangana high and upper primary schools to acquire a wide range of 21st century transferrable skills, as well as other employability and entrepreneurial skill sets.

OVERVIEW OF UPSHIFT POWERED BY UNISOLVE AND ITS DEPLOYMENT THROUGH THE GOVERNMENT-LED SCHOOL INNOVATION CHALLENGE (SIC) INITIATIVE

UPSHIFT, a solution within the UNICEF Global Youth Innovation Portfolio, is an accelerated learning journey that combines mentorship, workshops, and an entrepreneurial challenge. The journey is based on best practices from non-formal education, experiential learning, and enterprise education. By combining human-centered design, experimental learning, mentorship, and team-based work, UPSHIFT's approach seeks to equip participants with increased empathy, critical thinking, problem solving, cooperation and decision-making skills, as well as resilience, and entrepreneurial and growth mindsets (see Figure 1). UPSHIFT directly supports SDG 4 (Quality Education), SDG 5 (Gender Equality) and SDG 8 (Decent Work and Economic Growth), while also indirectly contributing to several other SDGs (SDG 10, Reducing Inequalities and SDG 17, Partnerships) by empowering young people with skills for learning, personal empowerment, employability, and active citizenship.

FIGURE 1 | UPSHIFT'S FRAMEWORK FOR TRANSFERABLE SKILLS



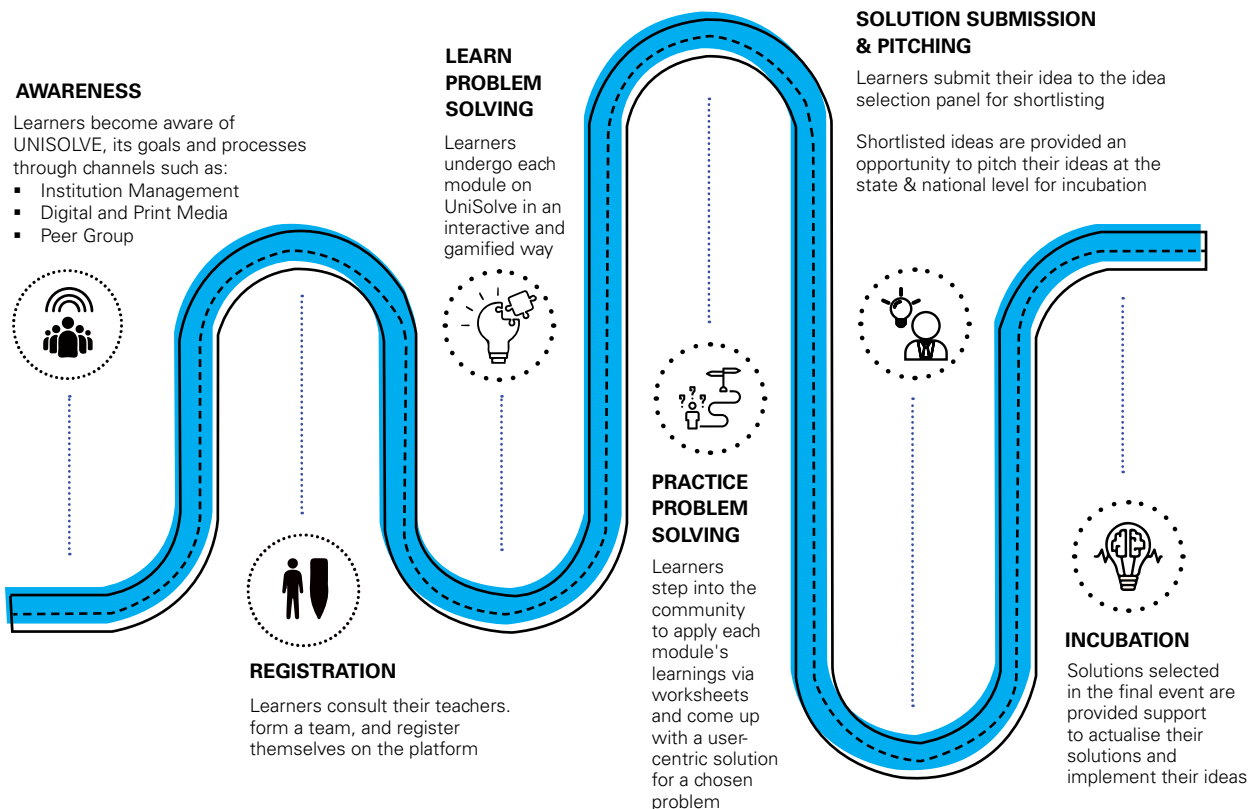
Source: UPSHIFT powered by UNISOLVE

¹ <https://timesofindia.indiatimes.com/education/news/president-inaugurates-model-schools-for-tribals-in-telangana/articleshow/96571665.cms>

The UPSHIFT learning journey, delivered through the digital platform UNISOLVE, is adapted to be delivered to adolescents through a school-based, teacher-facilitated, blended-delivery model, combining distance learning and face-to-face activities. It consists of a 20 to 25-hour course running over a six-week period (UNICEF, 2023). Participating students embark on a self-paced, gamified online course through the UNISOLVE platform under the guidance of a focal teacher and grouped in teams of 2 to 5 members. The course consists of six thematic modules, each including five components: videos, reflective questions, quizzes, additional reading material and worksheets. Some components are meant to be done individually through the digital platform and some as a team. The course concepts are taught through videos telling the story of four cartoon characters designed to resemble the target students. These characters are school students who set out on a mission to solve a problem they identified, with the help of a teacher.

Throughout the course, students are tasked to employ various problem-solving techniques, such as idea generation, prototyping, and other methodologies associated with Human Centered Design. The process of identifying relevant problems also includes community mapping and field visits to investigate their surroundings and speak to community stakeholders. Furthermore, students are actively encouraged to apply their newly acquired knowledge and skills in designing their own solutions to the identified problems, with the aim of making a positive impact on their local communities (see Figure 2). One project idea is submitted by each team and the most promising ideas submitted by students receive an opportunity for further mentorship and financial assistance to implement their solutions on a larger scale. Winning teams are acknowledged through a public event (the 'grand finale') with implementers and government authorities.

FIGURE 2 | STEPS TO PARTICIPATION



Source: UPSHIFT powered by UNISOLVE

UPSHIFT Evolution in India

UPSHIFT was initially piloted in India in February 2019 through a face-to-face bootcamp with a cohort of 60 students to demonstrate the approach to state government authorities, who were seeking school-based learning solutions that would support them in operationalizing their 'one innovator per family' vision.

The second pilot (launched in 2020) was on an entirely different scale, as it responded to a Telangana state government call for school-based learning solutions that would support them in operationalizing their 'one innovator per family' aim. The rights-holders of this initiative were adolescent boys and girls attending government schools in Telangana; however, the scope was expanded in subsequent editions to encompass the diversity of school types present in Telangana, including social welfare and tribal schools, and to include students from Classes 6 through 10 (please refer to Section E, Programme Outreach for more details on implementation scope and outreach). The partnership with Inqui-Lab Foundation was developed at this stage, with investment provided for curriculum adaptation and the development of a digital platform. Without the initial pilot, it would have been challenging to advocate for investment into a digital platform. The second pilot was in Telangana, a neighboring state to Andhra Pradesh and served by a shared UNICEF field office. This second pilot was followed by a third cycle, also in Telangana and during the COVID-19 pandemic. This enabled UNICEF to test a scalable model, reaching 49,000 students in 5,387 schools across both cycles.

Based on the first two iterations, the platform was identified as having potential for deployment on a global scale. In 2022, funding was allocated through the UNICEF Office of Innovation to further develop and test the scaling of the platform to three additional states in India, as well as to Bhutan and the Maldives. In addition to strengthening the technological side of the platform based on lessons learned from previous iterations, a new digital curriculum was developed. Furthermore, a substantial pedagogical change was introduced through a new learning journey for students. While, in the previous version, students completed all online courses before developing the solution, the revised learning journey adopted a model-based

approach, where students go through several modules, putting newly acquired knowledge into practice with the support of worksheets, with the assimilation of each module's content verified by teachers before students can move on to the next one. This brought the learning experience closer to that of the global UPSHIFT approach.

Following these changes, the platform was renamed UNISOLVE and the learning journey is known within UNICEF as "UPSHIFT powered by UNISOLVE." This renaming reflects the fact that the platform was designed as a digital transformation of UPSHIFT, where the curriculum is not just a digitalization of the face-to-face model, but has been specifically developed for digital delivery within a blended learning environment, including small modules, worksheets, and additional readings to supplement the highly interactive content delivered within a gamification environment.

The fourth cycle (in progress during academic year 2022/23) saw a 10x growth, reaching over 220,000 students across nearly 19,000 schools in 4 states (Andhra Pradesh, Karnataka, Tamil Nadu, and Telangana). Within India, combined investment across the four states made it possible to bring on board the partnerships that have enabled a new approach to teacher training and school support.

In Telangana specifically, a total of 49,047 adolescents from 9,428 schools have participated in the SIC, submitting 18,130 project ideas (Inqui-Lab Foundation, s.f.). Data disaggregation on participating students according to gender, socio-economic status, and other variables of interest is limited, available only through the school typologies, and discussed in the relevant section of findings. In the year 2023, the SIC was implemented across the 33 districts of Telangana.

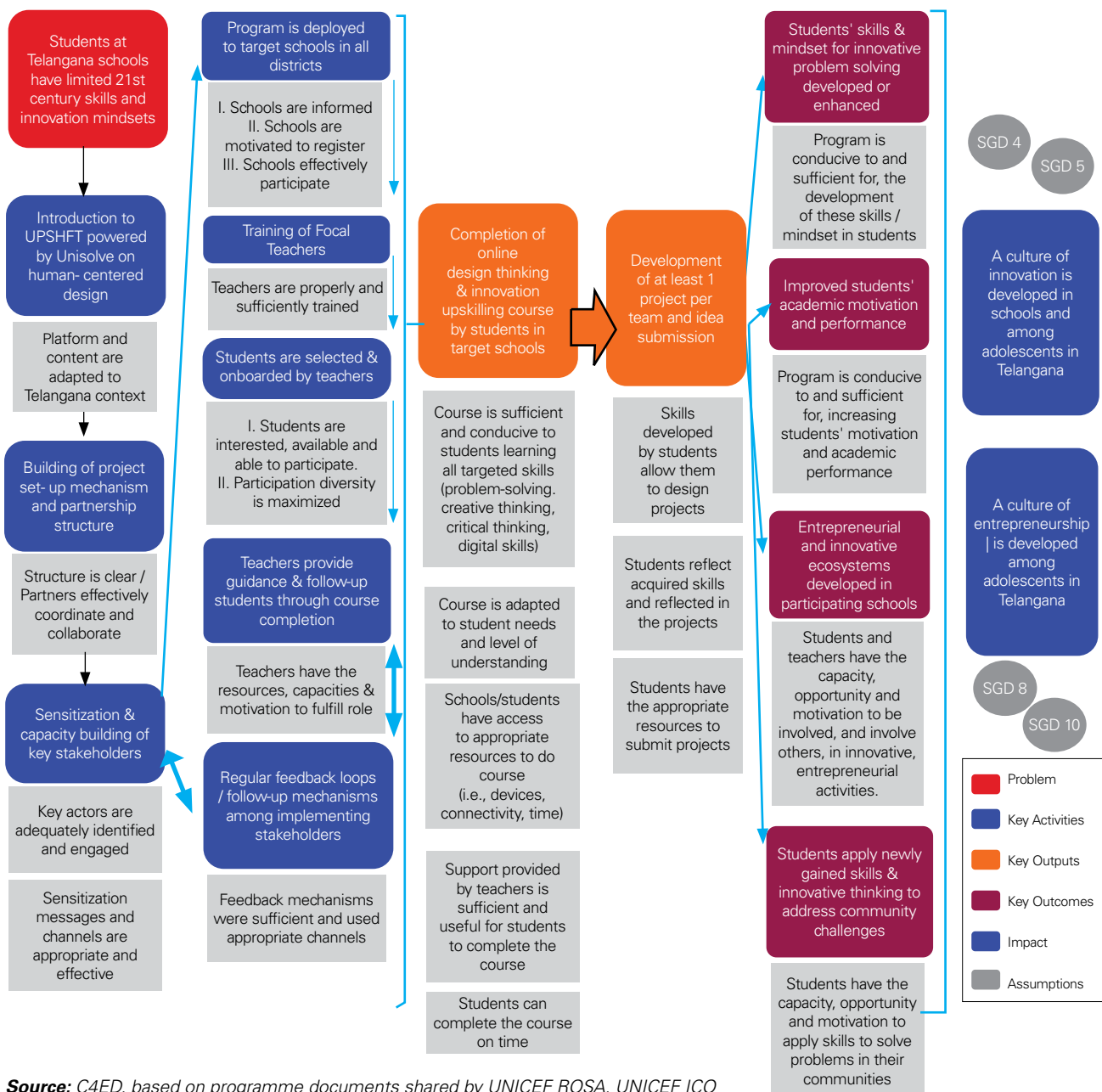
Theory of change

The programme does not have a formal theory of change (TOC) depicting the outputs and outcomes it hopes to achieve, priorities of the intervention, and in which ways the activities and outputs are connected to its longer-term results and SDGs, which made it difficult to set up a framework for the evaluation. The following TOC was designed by the evaluation team / C4ED for the purpose of this process evaluation and is based on the

programme documents shared by UNICEF ROSA, UNICEF India Country Office (ICO) and Inqui-Lab foundation, as well as KIIs with stakeholders (see Figure 3). It focuses primarily on the steps of the process that could be reconstructed by evaluators in this exercise, including key activities, outputs and outcomes, as well as the main assumptions behind each step. In the Findings chapter, the evaluators analyze the process outlined here, testing the

validity of the steps and assumptions behind them, and assessing the achievement of outputs. Outcomes and impact fall beyond the scope of this evaluation; therefore, the discussion of these aspects is limited to some key observable trends and challenges for achieving results, with the main aim of providing useful insights for programme design and adaptive management.

FIGURE 3 | THEORY OF CHANGE



Source: C4ED, based on programme documents shared by UNICEF ROSA, UNICEF ICO and Inqui-Lab foundation, as well as KIIs with stakeholders

Implementation structure

The programme has a complex implementation structure, with multiple partners and levels. The key duty bearers with responsibilities in programme implementation are summarized below.

At the higher level, a set of 'core partners' for programme set-up and implementation are identified: UNICEF, Inqui-Lab foundation, TSIC and the DoE.

- **UNICEF** is the donor and acts as programme ambassador, thematic expert, programme monitor, and overall key relationship broker bringing together government departments and implementing partners. SIC is overseen by UNICEF's India Country Office (ICO) and YuWaah (Generation Unlimited India). The Hyderabad office is responsible for running the programme in Telangana as well as in Andhra Pradesh and Karnataka (the Kerala and Tamil Nadu office is responsible for the programme implemented in Tamil Nadu). In Telangana, the Hyderabad office is the main liaison with the government. UNICEF ICO, in partnership with the UNICEF Office of Innovation, supports the Hyderabad office by way of technical inputs and capacity building, management systems, and overall guidance. UNICEF ICO does not interface with district and school-level administrators.
- **Inqui-Lab Foundation**, commonly referred to as the 'knowledge' partner, is dedicated to designing and catering for the platform's design and content, and training "teachers' trainers" (on the contents and technology). The foundation is also closest to platform users (adolescents and teachers), from whom they request feedback.
- **Telangana State Innovation Cell (TSIC)**, a quasi-governmental agency of the state of Telangana, it is considered the 'anchor' partner

for the programme – the main point of contact from the government side, with an aligned mandate to the programme's objectives – and the key institution for advancing the innovation agenda. TSIC also acts as a government relationship broker, leading the communication with the Department of Education (DoE) and promoting buy-in for innovation across different spheres, including the education system.

- **Department of Education (DoE)** is the programme's institutional enabler (without which it would not be possible for the programme to land at schools), and the key liaison with the school level. The DoE has the ultimate decision on the programme's length and calendar dates. The programme's school liaison is done via the DoE's district education officers (DEOs) and the district science officers (DSOs). DSOs are the key figures in Telangana to act as a bridge between the programme and the schools. Named 'nodal officers' by the programme, DSOs inform schools of the timelines, request and ensure school registration, and encourage programme completion.

In addition to these 'core' partners, a third-party is included as part of the delivery structure, as follows:

- **Implementation partner (Seventh Sense)** has been allocated for leading day-to-day implementation delivery and support, coordinating the content, training and technology teams. This partner has in place a 'cascading' structure to lead the programme delivery at ground level, the structure of which was not entirely clear to evaluators, and no documentation was available for clarification. Overall, it includes an implementation manager, state project coordinators for each state, district coordinators, and district volunteers. There are five district coordinators overseeing a team of six to seven volunteers.

Evaluation purpose, objectives and scope

PURPOSE OF THE EVALUATION

The UNICEF Regional Office of South Asia (ROSA) in collaboration with the Office of Innovation and Development (C4ED) to conduct an external Process Evaluation of UPSHIFT powered by UNISOLVE, currently implemented under the SIC programme in Telangana state, India. The purpose is to promote knowledge within UNICEF and build its technical capacity, by benefiting from existing outside technical expertise.

Through this evaluation, C4ED seeks to identify the factors and conditions that could contribute to differential effects on the programme's uptake and effectiveness, assess lessons learned in implementing the SIC in Telangana and based on these, provide recommendations for programme design, implementation and sustainability in Telangana, as well as in other states in India and other countries. In addition, the findings from this evaluation can be of use to advocate for enhanced use of the programme and other innovative solutions within UNICEF.

The intended audience for this evaluation thus includes UNICEF ROSA, UNICEF ICO, and stakeholders involved in the programme design and implementation. Findings are expected to be valuable for advocating enhanced programme use and innovative solutions within UNICEF, as well as for informing youth learning initiatives across South Asia.

The report notes that initial discussions for the evaluation of the UPSHIFT implementation in Telangana had centered on an experimental design, typically referred to as a 'randomized control trial', where either schools or students would have been randomly assigned to treatment or control arms – allowing for the identification of the causal effects of SIC. However, it was determined that such a design was not feasible given the context, which led to a redesign based on a quasi-experimental approach. Under this approach, C4ED planned to construct control groups via propensity score matching, under the assumption that the teachers/

administrators that selected students to participate in SIC would share a list of comparable students, along with basic demographic information and grades from previous semesters for these students, as well as for the selected students. However, in the spring of 2023 it was determined that a quasi-experimental approach did not best fit the objectives of the stakeholders. Consequently, the goal of the evaluation was shifted to focus on evaluating the process of SIC implementation and the progress towards the achievement of results rather than the identification of its causal effect.

OBJECTIVES OF THE EVALUATION

The overall objectives of this process evaluation are:

1. Provide an independent assessment of UPSHIFT powered by UNISOLVE regarding its **relevance, effectiveness, coherence, and sustainability** for achieving its set activities and outputs towards the delivery of adolescent learning outcomes.
2. Identify the **factors** and **conditions** which could contribute to differential effects on the programme's uptake and effectiveness.
3. Assess **challenges** faced and **lessons learned** in implementing UPSHIFT powered by UNISOLVE in Telangana.
4. Provide **recommendations** on changes needed in the continued implementation of UPSHIFT powered by UNISOLVE in Telangana, and for its roll-out to other Indian states and other countries.

As a process evaluation, it focuses primarily on the programme's relevance, coherence, and sustainability, while its effectiveness is analyzed – to the extent possible – with a focus on testing and validating the programme's process from inputs to outputs and the assumptions therein. Outcome delivery is not a key focus of the evaluation. However, (limited) available data sources were used to identify and outline key observable trends and challenges towards the achievement of outcomes (and the potential impact) of the programme, which can provide useful insights for design and future implementation.

SCOPE OF THE EVALUATION

Key aspects of the evaluation's scope are summarized below (see Table 1):

TABLE 1 EVALUATION SCOPE	
Area	Scope
Thematic	The evaluation explored processes and related effects of implementing the SIC programme in Telangana. It focused on the relevance of the programme and its contents, the activities and outputs delivered (and their contribution to outcomes), the workings of the process and stakeholders involved at all stages of programme implementation, and the challenges and lessons learned that emerged from the understanding of this process. As such, feedback from students, teachers, and administrators formed a key part of this evaluation, to inform future roll-out of the initiative to additional schools in India and other countries.
Geographic	The evaluation targeted a subset of the schools where SIC is implemented. While the quantitative component of the evaluation conducted descriptive analysis of data from before and after tests carried out in all schools, the qualitative and central component of the evaluation collected primary data from a total of 15 schools across five districts of Telangana. The selection of the schools aimed to ensure maximum heterogeneity (school typologies and population served, districts, urban/rural, etc.), providing information-rich cases to understand different factors, conditions, and challenges in the achievement of programme objectives.
Stakeholders	Because a critical purpose of the evaluation is to inform UNICEF's efforts and the roll-out of the model, this evaluation has included key national-level and sub-national level stakeholders involved in the implementation, both within and outside UNICEF. Participants were selected using purposive sampling, and included: boy and girl student participants in SIC, focal teachers and school principals, DSOs from the DoE, district coordinators and jury members, TSIC, Inqui-Lab Foundation and UNICEF staff. The evaluation also planned for the inclusion of more national-level stakeholders from the DoE and the Department of IT, but they were unavailable during the evaluation period ² . At the school level, the evaluation targeted a subset of participant schools ³ selected based on an agreed-upon set of criteria.
Timeframe	The process evaluation assessed the last programme cycle of the programme as implemented in 2022/23. Insights regarding the evolution of the programme since its first implementation in Telangana are also contemplated and examined to contextualize the findings and enrich the lessons learned.

Source: C4ED

² Instead, an additional interview with one of the implementing partners was conducted.

³ 30 schools were included in the original sampling frame: however, delays in receiving key monitoring data and time pressures due to the end of the school year meant that the sample had to be reduced to 15 schools, while the overall number of focus group discussions was maintained by including two FGDs per school instead of one. Please see the section on limitations and constraints for more details.

Evaluation Design and Methodology

EVALUATION DESIGN

Evaluation framework

The evaluation framework for this process evaluation was developed based on the criteria of **relevance**, **effectiveness**, **sustainability**, and **coherence**, as defined by the Organization for Economic Co-operation and Development Assistance Committee (OECD-DAC). The key **overarching questions** were:

1. How appropriate is the programme in terms of content, accessibility, and user-friendliness vis-à-vis the students' needs, interests, and capabilities? (**RELEVANCE**)
2. What is the nature of stakeholder collaboration, and how has it influenced programme implementation? (**COHERENCE**)
3. To what extent, and with what results, has the programme delivered its key activities and desired outputs? For whom and why? Is the programme adequately working towards its outcomes and goals? (**EFFECTIVENESS**)
4. What lessons can be learned and recommendations drawn from the programme implementation to uphold its sustainability and inform future programming (including potential upscaling and replication)? (**SUSTAINABILITY**)

Each evaluation question further includes a series of sub-questions, which were designed in collaboration with UNICEF's country and operational teams, to ensure utility and buy-in. These explore process and outputs aspects, as well as some key outcomes to which the programme seeks to contribute (and whose progress the evaluation considered). A complete evaluation matrix including the key criteria, key evaluation questions, sub-questions, data sources and evaluation methodology can be found in the annexes of this report.

The evaluation adopted a mixed-methods approach to answer the evaluation questions, comprising a main qualitative component with primary data collection with both rights holders and duty bearers (participating students and key informants), as well as a quantitative component with analysis of secondary data. The approach corresponded to an 'embedded' model, with one type of data (quantitative) embedded within a methodology framed by the other data type (qualitative) (Greene & Caracelli, 1997). The primary data collection was

carried out at school, district, and national levels, and complemented by a small descriptive analysis of secondary data generated by the programme from baseline and endline surveys taken by the participating students.

Evaluation principles

The research design follows a **human rights-based** design, with consideration of the principles established by the **Committee on the Rights of the Child (CRC)** and the **Committee on the Elimination of Discrimination against Women (CEDAW)**.

Firstly, the evaluation approach was **inclusive** and considered **equity issues**. A wide variety of stakeholders were consulted at different levels (school, district, national levels), to ensure that diverse perspectives were taken into account. Rights-holders from different school typologies and geographic backgrounds were included in the sampling (including those from vulnerable and disadvantaged groups), ensuring that rights-holders' were broadly represented, and that findings and recommendations were grounded in the lived experiences and insights of those directly impacted by the programme. Furthermore, research tools and researchers' field protocols were developed, which considered differences among schools and adolescents in access and programme uptake. Findings were disaggregated accordingly, providing a nuanced understanding of the programme's implementation across different contexts and groups.

The evaluation approach also featured consultative modes of participation of adolescent rights-holders in the evaluation process (see UNICEF (2019)). Whenever possible, C4ED integrates a consultative approach into its evaluation designs, based on the belief that direct involvement of the people targeted by a programme is a prerequisite for a sound evaluation that reflects the reality of its target audience and is truly informative of their needs and contexts. The evaluation supported **direct participation** of rights-holders, putting them at the center of the research and allowing them the opportunity to express their own views and experiences about the SIC programme. The evaluation ensured that research activities would be carried out within safe and familiar spaces (i.e.,

school environments in the case of adolescents) and via informed consent and assent processes (more details are referred in the ethical considerations section). Further, researchers employed **child-sensitive** interviewing techniques and approaches throughout the consultations, including questions to ensure rights-holders' comfort, and strategies to ensure their participation in the discussions.

Further, the evaluation approach, in alignment with its rights-based perspective, incorporated an analysis of the programme's outreach, with a specific focus on its **strategies to address broad participation, inequalities and vulnerabilities**. It also examined how the programme fostered the participation and empowerment of children and youth, and how it upheld the human rights principles of non-discrimination, inclusion, and equality.

The evaluation incorporated a **gender-sensitive** approach in three key areas: research protocols and staffing strategy, sampling strategy and tool design. Two mixed-gender teams and one all-female team (tasked to visit girls-only schools) were deployed to the field to make sure that study participants found the appropriate interlocutors in researchers, and that socio-cultural norms and sensitivities were considered. In addition, both female and male participants were selected for interviews. For the case of rights-holders, both female and male adolescents took part in the focus group discussions (FGDs) for the qualitative component, with inclusion of both same-gender and mixed-gender environments for data collection. For the quantitative component, gender disaggregation of secondary data – whenever possible – was ensured. Further, research tools were designed, and researchers were instructed to explore gender differences in terms of the programme's access, uptake and results to all stakeholders consulted, and to feature this component throughout the analysis, as well as in the potential lessons learned and recommendations for the implementation.

EVALUATION METHODOLOGY

Qualitative component

Primary qualitative data, obtained from programme participants and stakeholders involved in design and implementation, is the main source of information

for this evaluation. Two main tools have been used for data collection: semi-structured interviews with key informants (**KIIs**) involved in programme implementation, and **FGDs** with students (girls and boys), who have taken part in the SIC. All interviews and discussions were performed in the language preferred by study participants (English or Telegu), recorded (upon confirmation of informed consent), transcribed and translated into English.

Sampling strategy and data collection tools

Study participants were sampled at three geographical levels:

- **National/state level:** key informant sampling was employed to select stakeholders at national and state level, based on their level of involvement and responsibility in the programme design and implementation.
- **District level:** five districts of Telangana were selected, taking into consideration geographical location, proportion of urban population and literacy rates to maximize heterogeneity. Key informant sampling was employed to select stakeholders with key roles in programme implementation at district level.
- **School level:** purposeful sampling was employed to select 15 schools that participated in (at least) the last cycle of the programme, across different districts, based on the following selection criteria as recommended by UNICEF ICO:
 - Type of school:
 1. Government High Schools (HS): state-funded public high schools.
 2. Government Upper Primary Schools (UPS): Out of the ten years of education, the first five years comprise primary school, followed by two years of upper primary schooling. Government UPS are state-funded institutions.
 3. Backward Classes Welfare Schools (BC): schools meant to cater to the socially marginalized communities namely the scheduled castes, scheduled tribes and other religious minorities.
 4. Social Welfare Schools (SW): schools catering to socially and financially marginalized communities that admit students from the upper primary till the intermediate level.

5. Private Schools (unaided): privately-owned educational institutes.
 6. Kasturba Gandhi Balika Vidyalaya (KGBV) Schools for girls: residential schools for girls at upper primary level, belonging to scheduled castes, scheduled tribes and other 'backward classes' and religious minorities.
- Gender-based: mixed-gender, only boys' schools and only girls' schools were included in the sample.

The sample was stratified further, according to the following respondent categories (see Table 2).

There were some notable changes to the sampling framework during the inception phase. Firstly, due to a delay in the provision of the list of SIC participating schools — and the impossibility of changing the timeline due to upcoming exam schedules — the initial/original sampling of schools had to be reduced from 30 to 15. Consequently, the number of FGDs with students was doubled per school (two instead of one), to maintain the planned

number of adolescent participants. Furthermore, one of the districts initially selected was replaced with another one closer to other districts visited, in order to allow the completion of the data collection in the very limited time available. Lastly, even though the sampling of schools contemplated up to two replacements for each school, in some cases none of the sampled schools was available or met the minimum requirements (for example, the focal teacher had resigned or moved, or only two participating students were at the school), and new schools had to be sampled ad-hoc. This meant that the planned distribution of school types within the sample was not followed⁴. One of the consequences of this change in the school-type distribution was that due to an increase of KGBV schools in the sample (from 2 to 4), the total number of female students in the overall sample is higher than expected.

The final number of schools visited during data collection by type and district is shown below (see Table 3).

TABLE 2 RESPONDENT CATEGORIES

National/state level	<ul style="list-style-type: none"> ● UNICEF: remote KIIs were conducted with members of ICO as well as the Hyderabad office, who were involved in programme design and/or implementation at the national and state levels. ● Telangana State Innovation Cell: remote KIIs were conducted with two members of the Telangana State Innovation cell, a government agency with an innovation mandate, tasked through the programme to serve as a link between implementers, knowledge partners and the department of school education.
District level	<ul style="list-style-type: none"> ● District science officers (DSOs): in-person KIIs were held with DSOs responsible for implementing the programme by the Department of School Education. DSOs were programme focal points at the district level, tasked with coordinating with teachers and offering them assistance. ● Jury members / district coordinators: remote KIIs were conducted with members of the jury tasked with evaluating and shortlisting the project ideas submitted by students through the UNISOLVE platform in the last programme cycle. Most of the jury members were also employed as district coordinators for the implementing partner, in charge of project deployment in the districts, teacher support and project follow-up, in coordination with DSOs.
School staff	In-person KIIs were conducted with the school principals and the focal teachers of each of the 15 schools visited.
Student participants	FGDs were conducted with girl and boy students who participated in SIC (2 FGDs in each of the 15 schools visited)

Source: C4ED

⁴ The sample of schools changed as follows: from two to one BC school, from two to four KGBV schools, from three to four SW schools, from three to two private schools, from four to two government HS. The number of UP schools planned didn't vary.

TABLE 3 SAMPLED SCHOOLS BY TYPE AND DISTRICT

DISTRICT	TYPE OF SCHOOL						
	BC	KGVB	SW	Private Unaided	Gov HS	Gov UPS	Total
Medchal	0	0	2	0	1	0	3
Hyderabad	0	0	0	0	0	1	1
Nalgonda	0	3	0	0	0	1	4
Sangareddy	0	1	1	1	0	0	3
Yadadri	1	0	1	1	1	0	4
Total	1	4	4	2	2	2	15

Source: C4ED

In total, the qualitative component of the study included 326 participants. The final numbers of study participants per geographic level and respondent category are depicted below (see Table 4).

For each type of respondent, different tools with topic guides and open-ended questions were developed to answer different research questions, as depicted in the Evaluation Matrix (ANNEXES, Annex 1. Evaluation Matrix). Interview and topic guides considered appropriate lengths to avoid respondent fatigue and minimize the burden on the participants. KIs were designed to take between 45 and 60 minutes with national-level stakeholders, and 30 minutes with DSOs/Jury members. FGDs did not exceed 90 minutes.

During the interviews with jury members, it became apparent that three of them were also district coordinators, a crucial role in programme implementation that the evaluators were unaware of during the inception phase. Therefore, follow-up questions related to their specific tasks, responsibilities and knowledge were integrated ad hoc.

To ensure cultural appropriateness and uphold ethical principles and standards, all data collection tools were reviewed by the recruited local qualitative researchers, based on their experience and knowledge to best contextualize the interview questions. Tools were translated to Telegu (when appropriate). A pilot and debriefing to test and adjust

TABLE 4 SAMPLING

Level	Participants	Nr.	Gender
NATIONAL	Telangana State Innovation Cell	2	1 F 1 M
	UNICEF Staff (Delhi, Hyderabad) ⁵	4	1 F 3 M
	Inqui-Lab Foundation (implementing partner)	1	1 M
DISTRICT	DSOs (1 per district)	5	5 M
	Jury Members	5	2 F 3 M
SCHOOLS	School Principals (1 per school)	15	8 F 7 M
	Focal Teachers (1 per school)	15	11 F 4 M
	Students (2 FGDs per school, 8–10 students each)	279	192 F 86 M
Total Participants		326	

Source: C4ED

the tools were planned, but it was not possible to implement these due to delays in data provision by the implementing partners. The research team and the C4ED qualitative experts closely monitored the implementation of the tools during data collection, to ensure that any issues were addressed, via regular debriefing sessions during data collection.

⁵ Given the unavailability of some of the government stakeholders, additional interviews with UNICEF ICO and with the design partner, Inqui-Lab Foundation, were included.

QUANTITATIVE COMPONENT

The quantitative component of the evaluation focused on the analysis of secondary data obtained from the before and after surveys of school students that participated in the programme in 2022/23 (designed using a quasi-experimental approach), as well as quantitative monitoring data produced by the programme (such as the list of participating schools, number of teams formed, and number of ideas submitted per school). The list of students' submitted project ideas that were shortlisted by the evaluation jury was also used to compare the rate of shortlisted ideas by type of school.

In summary, the quantitative component was based on four datasets:

1. Baseline questionnaire of ten questions (based on the original before and after test developed for the planned quasi-experimental evaluation), which was answered by 52,755 respondents from 3,510 schools between November 2022 and February 2023.
2. Endline questionnaire which included nine questions. Some 42,557 respondents from 3,001 schools answered this questionnaire between December 2022 and March 2023.
3. List of 4,176 schools that were registered for the SIC (including location, type of school, number of teams at each school, and number of ideas submitted from each school).
4. List of the 70 submitted ideas that were shortlisted.

DATA ANALYSIS

The analysis process of the primary qualitative data was carried out in several stages. First, simultaneous to data collection, the research team carried out a daily reflection and interpretation of interview notes to identify early emergent patterns and draw initial findings after data collection was concluded. In a second step, all interviews and FGDs were translated into English and transcribed, and the data was coded using the MAXQDA software, according to a code structure developed on the basis of the evaluation questions and initial findings. The code structure was iteratively revised and adjusted according to the information emerging

from new data. This allowed the evaluation team to strike a balance between deductive and inductive approaches to research, and to ensure that 'unexpected' data was featured in the analysis. In a third stage, the evaluation team carried out a systematic content analysis of the coded data, to identify patterns and trends, convergencies and divergencies in the relevant themes and stratified by categories of participants. This allowed for the development of themes and broader categories, which provided one of the sets of inputs needed to answer the evaluation questions. The process included the cross-checking of evidence from the different types of tools and participants to validate specific findings.

As for the quantitative data, the baseline/endline surveys were analyzed using the statistical programme 'R'. First, the raw data was examined and cleaned. This included translating parts of the survey response from Telegu to English, so that all survey data was available in English. Subsequently, all the variables were tabulated, and relevant variables were cross-tabulated. These tabulations were then graphically displayed to add analysis and comprehension.

Finally, findings from the qualitative data analysis were triangulated with and complemented by findings from secondary quantitative analysis. The findings from both datasets were converged, compared, and contrasted during the interpretation phase.

ETHICAL CONSIDERATIONS

For the design and implementation of this evaluation, C4ED abided by UNICEF's Procedure on Ethical Standards in Research, Evaluation, Data Collection, and Analysis (UNICEF, 2021). The team also considered recommendations of the Ethical Research Involving Children (ERIC) compendium by UNICEF (Innocenti, 2013), the Committee on the Rights of the Child (CRC) and the Committee on the Elimination of Discrimination against Women (CEDAW). Further, C4ED is guided by its internal code of conduct, which commits all staff and partners to the principles of integrity, accountability, independence and impartiality, respect for persons and communities, and professional commitment.

In the evaluation design, the team considered the core ethical principles of respect, beneficence, justice, integrity, and accountability outlined by UNICEF's Ethical Procedure. Ethical considerations and protocols to be observed prior to and during the evaluation were established, considering key ethical standards charted by UNICEF's procedures, including harms and benefits, informed consent, privacy and confidentiality, compensation and payment, and professional conduct. Thus, the evaluation design sought to safeguard the respect for human rights, as well as children's rights. The design, including tools and consent forms, was submitted to an independent ethical review board, the HML IRB (Human Subjects Research Ethics Approval), and clearance was received in March 2023. UNICEF ICO also applied for the permissions needed for fieldwork with the Telangana government.

The team carefully selected the research methods and developed tailored protocols to abide by a 'Do No Harm' approach. The design was based on the team's wide experience with vulnerable populations in India and worldwide, and informed by local consultation with UNICEF and the local partner. C4ED and associated staff made a commitment not to expose participants or researchers to harm, to abide by national legal provisions, and to be culturally sensitive to study participants' needs and socio-cultural practices when conducting the evaluation. A joint team of national and international researchers worked together to combine strengths and ensure best practices in ethical data collection. Local researchers were trained in ethical research principles to ensure that they conducted the research with professionalism and integrity, and that they were equipped to clearly identify any potential issues and know how to approach them. Researchers were also required to sign C4ED's Code of Conduct as part of the terms and conditions for taking part in the evaluation. Moreover, the local partner signed a declaration that there was no conflict of interest in the evaluation for any involved staff or partners.

Data collection tools were adapted to the needs and specificities of the types of research participants and their context. Separate interview guides and topic lists for adolescent rights-holders and for adults were developed, to ensure that questions

were age-appropriate, easily understandable, and relatable to their contexts. The research tools and consent forms were prepared in English, and contextualized and translated to Telegu when needed, to ensure their suitability. All tools were submitted to the independent ethical review and received approval. Given that time constraints did not allow for the implementation of a pilot as planned, the appropriateness of the tools was monitored daily during data collection through regular briefing sessions with the local research team, and any necessary adjustments were made by researchers.

Field protocols were also designed to provide tailored guidance for data collection, featuring considerations of participants' informed consent, privacy and confidentiality, wellbeing, and safeguarding, including C4ED's duty of care.

Informed consent was sought from all participants. For the case of adolescents, both guardian-informed consent and the adolescent's informed assent were required. The purpose of the research and of participants' involvement was explained by the researchers, who read the consent forms aloud and gave them to participants to review before initiating the interviews/sessions. Participants were able to ask questions and clarify expectations prior to giving their consent. All participants were notified that the information would be treated confidentially, anonymized, and used only for the purposes of the evaluation. The consent form used simple language and was prepared both in English and in Telegu, when needed. All participants were asked to sign the form (in the case of in-person interviews/sessions) or verbally give their consent to be recorded (in the case of remote interviews). The purpose of the recording was explained and included in the consent form. All participants were made aware that their participation in the evaluation was voluntary, and that their consent was negotiable and could be withdrawn without any negative consequences. No payments were foreseen for participants.

Interviews with adolescents took place at the schools, an environment which could ensure participants' familiarity, safety, and privacy. Researchers were experienced in interviewing adolescents and received additional training by

C4ED for conducting FGDs. Given that children often have shorter attention spans, participatory methods were included in the FGDs, consisting of an interactive exercise with cards and stickers, in which they could directly write responses about their learning and experiences to be shared. The goal was also to allow for an individual moment of reflection and to facilitate the contributions of students that had more difficulty sharing their opinions in a group setting.

For all interviews, the participants' local context and experiences were taken into consideration when formulating the questions, and when listening to their responses, their ideas and needs were given priority. Technical terms or abstractions were avoided, and when needed, explained by the researchers. An active listening stance was adopted by the researchers for all respondent types. Researchers practiced self-awareness and reflection throughout the data collection process to ensure that potential biases were kept in check and that participants' views could be transparently captured.

A gender-sensitive approach was also ensured; C4ED deployed a mixed team of male and female researchers, to guarantee that girls and women participants could be interviewed by a female researcher when deemed necessary by the field team (based on cultural norms), or when requested by participants or their guardians.

As part of C4ED's duty of care, researchers were required to follow established procedures to ensure that our participants' wellbeing was safeguarded. Participants were provided with a contact point to refer any concerns or grievances regarding researchers or any aspect of the research to C4ED, as well as with a relevant e-mail address (complaints@c4ed.org) as part of their consent form.

Data handling during and after the implementation of the research sought to ensure that the privacy and confidentiality of participants was respected and safeguarded. Data was de-identified at the individual level and findings aggregated to appropriate levels so that it was not possible to pinpoint the sources. Names and other personally identifiable information were removed from datasets as soon

as possible after data was collected and unique identifiers were assigned instead. Notes and interviews uploaded to the server were nominated with numbers and typologies of participants. All data collected was uploaded and stored on C4ED's secure online server, to which only staff working on the project had access, while the research team was instructed to destroy any physical copies or files. No participants were identified by name in this report; only numbers, school types and categories of participants were used in reporting.

STUDY LIMITATIONS

This section provides an overview of the limitations faced by the evaluation, as well as prevention and mitigation measures.

Regarding the quantitative component, a quasi-experimental study was not carried out as planned because of a change in stakeholder objectives. Further, when examining the data from the before and after surveys gathered from participating students, it transpired that it had not been possible to implement the surveys as initially designed. Instead, only the first section was implemented at baseline, and a modified version of the first section was implemented at endline. The modifications changed the language of the questions so that students were asked to compare, for example, their excitement about going to school before and after taking part in SIC, but with a different formulation, making direct comparisons with the baseline impossible. The omitted sections included skills and knowledge assessments. Without this information and without direct comparisons for the first section, the before and after surveys are of limited utility.

While some of the self-assessments elicited in the endline are reported in the evaluation findings, these should be interpreted cautiously. Many of the questions are slanted toward a positive response, so acquiescence bias is likely, especially given that the respondents were adolescents – an age group which on average tends to show a higher inclination towards this type of bias in research. Furthermore, it is likely that many respondents answered these questions in the presence of other respondents and/or teachers, as SIC participants typically shared phones to access the platform.

More importantly, since the quasi-experimental component of the evaluation was dropped, it is not possible to estimate the impact of SIC on participants. Equally relevant is the fact that it is not possible to estimate the impact of SIC on non-participants, and since non-participants were not included in the endline survey, their self-assessments are not available.

Due to the quantitative data limitations, the evaluation was designed to focus on areas of strength for qualitative approaches: the understanding of the process (including the testing and validation of assumptions), the 'why' and 'how' of the trends observed, as well as the uncovering of learnings for programme implementation moving forward, rather than assessing outcomes and impact.

Regarding the qualitative component of the evaluation, one important limitation is the sample size. Qualitative findings are not meant to be representative, in this case, of the reality at all schools in Telangana. However, they do provide a picture of the diversity of stakeholders' experiences in the programme, key emerging issues, facilitators and barriers.

Another important limitation is external validity: qualitative findings are often difficult to generalize and to apply to or compare with other situations. A small, non-random, purposeful sample is selected precisely with the goal of understanding a particular dimension in-depth, rather than finding out what is generally true for many. The external validity limitations of qualitative research are dealt with in several ways: 1) Rather than providing empirical generalizations, qualitative research suggests what Cronbach (1975) calls "working hypotheses", i.e., hypotheses that reflect situation-specific conditions in a particular context, and 2) The notion of transferability is introduced (Lincoln, Lynham & Guba, 2011), in which the "burden of proof lies less with the original investigator than with the person seeking to make an application elsewhere. The original inquirer cannot know the sites to which transferability might be sought, but the applier can and does" (p. 298). Finally, qualitative findings in this evaluation are supplemented by and triangulated with existing quantitative data.

The evaluation also encountered risks and limitations related to logistics and data quality in undertaking the qualitative primary data collection. The data quality of each dataset is critically reflected upon and discussed throughout the report.

Firstly, there was a significant delay in receiving school data from the implementing partners to carry out the sampling of schools, as well as a delay in government approval of the fieldwork, which in turn led to a postponement in the data collection start date. For this reason, there were only five days available to collect data, as schools were starting with exams beyond this point, rendering visits unfeasible. Therefore, the overall sample had to be reduced from 30 to 15 schools. As a mitigation measure to the loss of data, two FGDs were carried out in each school instead of one, to reach as many participating students as possible. Additionally, as mentioned before, some of the intended study targets could not be reached, which resulted in some information gaps. First, the evaluators missed the opportunity to visit a higher number of government schools, which are the overwhelming majority of the schools participating in SIC. Despite the field team's efforts to find replacements of the same school types, this was not always possible. While the sample was not intended to be representative, it could have benefited from a greater variety of examples from this school type. The evaluation team was also unable to interview key national-level stakeholders from the government side – stakeholders that could not be replaced – thus part of the perspective of the role of government partners was missing.

Secondly, most programme documentation was unavailable to evaluators at the time of the desk review, including the programme's goals and targets, TOC, draft standard operating procedures (SOPs), and project monitoring instruments (i.e., the programme's Gantt chart). The lack of documentation created limitations for evaluators' thorough understanding and mapping of the process and the roles of the stakeholders involved, as well as of the mechanisms for programme monitoring. Because of this, the understanding of the programme's goals, implementation and follow-up mechanisms was mostly construed via the KIIs. Some programme documentation (draft SOPs) was

shared with evaluators during the synthesis phase, which helped clarify the programme's direction and roles, and was incorporated into the analysis. No other programme monitoring data was provided beyond the project submission data.

The 25 valuateon also experienced a limitation in its scope in terms of the timeframe of implementation. Data collection with programme participants included only those who took part in the last programme cycle, and the scarcity of detailed

monitoring data available made it difficult to analyze the programme evolution across time, taking all three cycles into account. This is partly mitigated by the inclusion of key informants, who were involved in the programme design and implementation from the beginning, and who helped us understand the improvements made after each cycle through an iterative approach. In addition to these limitations, a comprehensive risk analysis, and detailed prevention/mitigation measures are provided in Annex 1.

Evaluation Findings

This chapter presents the process evaluation findings. Findings aim to **understand the implementation** of SIC rather than evaluate its outcomes, including how the programme was delivered, identifying strengths and weaknesses, and factors that influenced – or are likely to influence – success or failure, with a **focus on learning**. In the absence of a TOC, the team analysed the process to the extent it could be reconstructed by fieldwork and document analysis.

Sections 1-6 **outline the programme's steps, test their validity** and **whether the assumptions held**, and assess to what extent the identified outputs were achieved (and the progress towards outcomes advanced). The structure of the chapter follows the programme's process (see Figure 4). **Evaluation sub-questions** (Annex 1) are addressed throughout the chapter and used to explore key aspects of the implementation process. Meanwhile, the four **higher-level evaluation questions** in the matrix **are addressed entirely in the conclusions and lessons learned**, as this approach allows for a more thorough analysis of their intertwined nature.

Section 1 reviews the efforts deployed for **programme outreach**, including the building of partnerships and sensitization efforts (1.1) and the capacity building of teachers (1.2). **Section 2** focuses on **programme implementation** at schools, reviewing the student selection process and the extent to which students had an equal opportunity to participate in the programme (2.1), the course and its components regarding clarity, comprehensibility and engagement, (2.2), and participants' experience with the UNISOLVE platform, its benefits and shortcomings (2.3). Next, the report examines the extent to which the access and use of the platform was equitable for all types of students, and the factors affecting their overall experience with the programme (2.4). The section finishes with a review of the teacher (2.5) and the principal (2.6) roles.

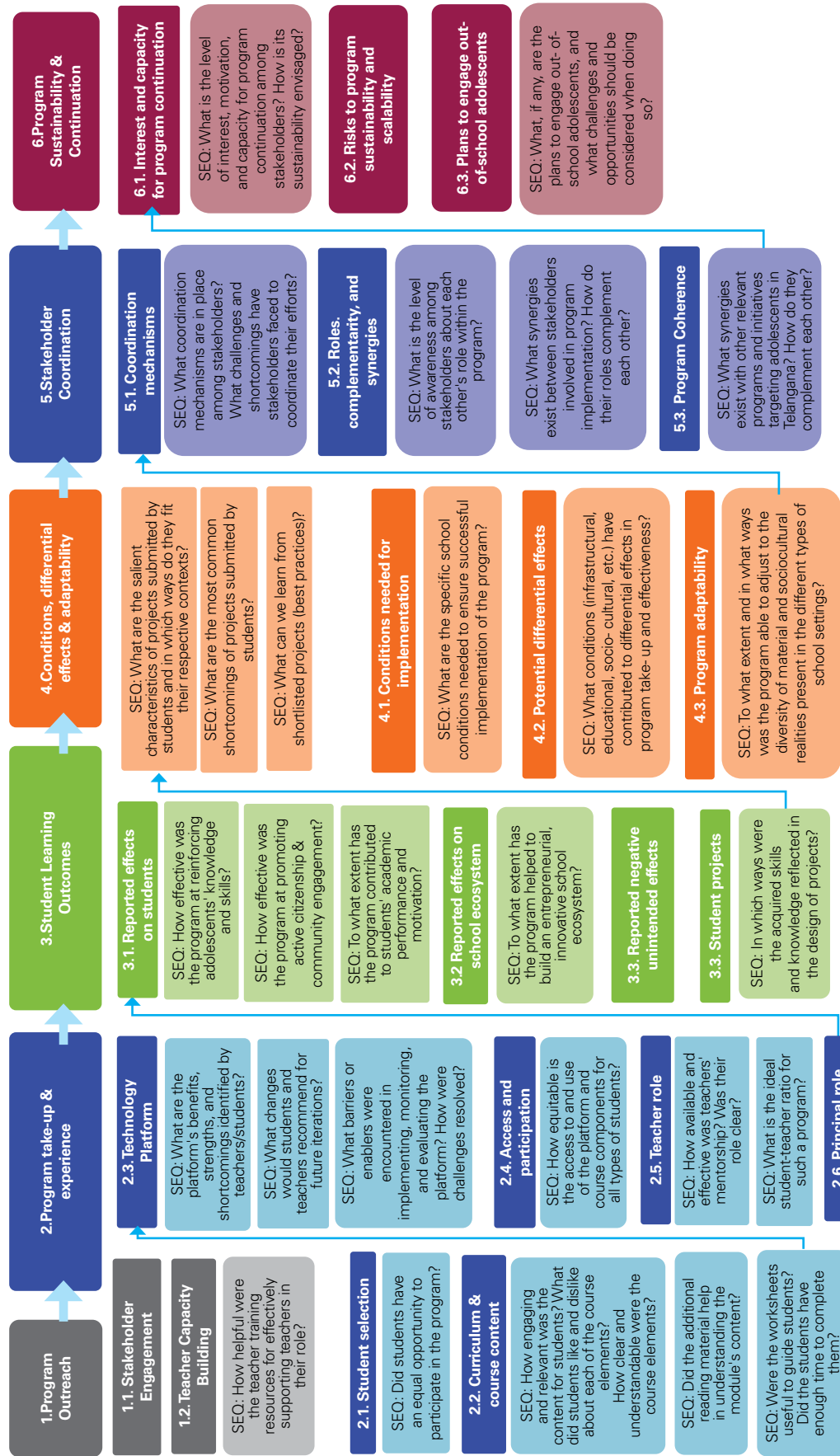
Section 3 is dedicated to **emerging outcomes**, the reported effects of the programme on students (3.1) and the school eco-system (3.2), as well as other unintended and/or negative effects (3.3). The section also looks at the projects submitted by students and the ways in which students applied their newly acquired knowledge and skills into their design (3.4).

Section 4 provides a more in-depth analysis of the **conditions for programme implementation** and **the extent of programme adaptability** to the schools' diversity of material and sociocultural realities, and explores whether these conditions were adequate to ensure successful implementation. Factors which potentially contributed to **differential effects** in programme uptake and effectiveness are also discussed.

Section 5 takes a step back from schools to look at the **coordination mechanisms** between programme stakeholders (5.1), the synergies created and the complementarities of their roles (5.2). The section also assesses whether the programme established **synergies** with or complemented other relevant initiatives targeting adolescents in Telangana (5.3).

Lastly, **Section 6** covers **sustainability** and potential for programme continuation, including the levels of interest and capacity of stakeholders, and a review of the risks to programme sustainability and scalability derived from the analysis. Also included is a revision of stakeholders' plans to engage out-of-school adolescents in future iterations, as originally intended.

FIGURE 4 | STRUCTURE OF THE FINDINGS CHAPTER



Source: C4ED

1 Programme Outreach

1.1 STAKEHOLDER ENGAGEMENT AND SENSITIZATION

The SIC programme targeted, firstly and primarily, government schools (both high schools and upper primary). Implementers mentioned that in the 2022/23 cycle, the programme was scaled up to include all secondary government high schools; however, it was not possible to quantitatively cross-check this information, as data was received for all participating schools but not for participating versus targeted.

Implementers reported that as the programme was reportedly validated by government and school stakeholders as ‘successful’, more demand from interested parties was received. During the last cycle, the programme was also expanded to two other states in India, Tamil Nadu, and Karnataka. As for Telangana, SIC expanded to include other types of schools (beyond government UPS and HS), such as private schools, SW schools, KGBV schools, among others. The below chart (see Figure 5) shows participation according to school types:

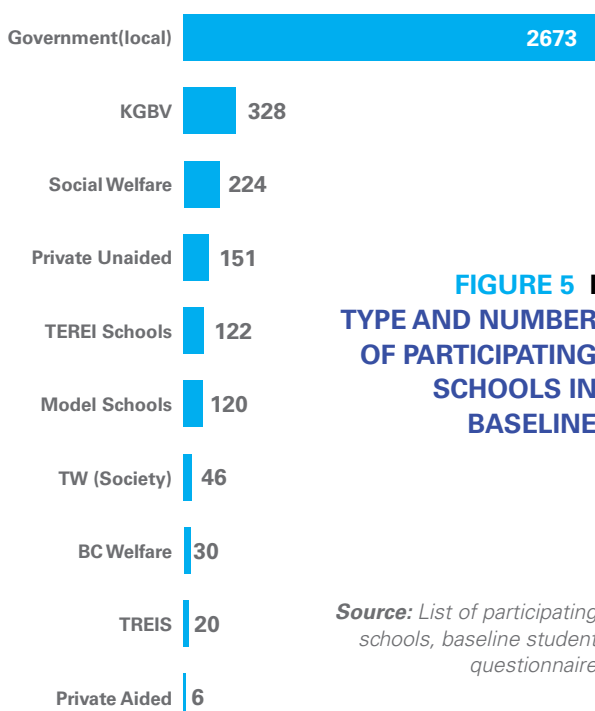


FIGURE 5 |
TYPE AND NUMBER
OF PARTICIPATING
SCHOOLS IN
BASELINE

Source: List of participating schools, baseline student questionnaire

Implementers interviewed reported to be pleasantly surprised by the high level of school participation, despite the difficulties and limited resources encountered. In this context, the high uptake may be explained by some key factors that can be identified based on indicative evidence:

- The **identification and tapping of the appropriate actors, structures, and communication channels** to adequately reach schools in Telangana (i.e., utilizing the official hierarchical structures and communication lines of the Department of Education (DoE)).
- The **successful sensitization** of key decision makers about the focus, relevance and value of the programme.
- The enabling of programme **access (via mobile phones)** in a context of limited resources.

One key challenge evidenced in the outreach process was timing, which put pressure on school actors and DSOs for programme completion. During the 2022 cycle, stakeholders specifically highlighted that the programme launch had experienced excessive delays, attributed to a contracting delay with partners, primarily due to the programme’s financing being organized in cycles.

There was a conscientious effort from UNICEF’s side to identify and engage partners, structures and communication channels needed for SIC implementation in Telangana. This included engaging the Inqui-Lab Foundation for the platform’s content and design, a government partner capable of advancing the innovation agenda (TSIC), and a government partner that would enable programme adoption at the school level (DoE). Moreover, UNICEF’s status in India, and particularly in Hyderabad, reportedly supported stakeholders’ openness to programme adoption. According to interviewed implementers, UNICEF’s long-standing presence and prior work with government departments on relevant issues was a contributing factor to familiarity and trust building that helped establish partnerships and promote the programme.

A ‘cascading’ approach to programme adoption was implemented, where relevant stakeholders were identified and then sensitized to promote buy-in and participation, firstly at higher government levels (Telangana State Innovation Cell, DoE) and then at subsequent levels within the relevant DoE structure (DEOs and DSOs), and the schools (identification and training of focal teachers). Implementers first sensitized DSOs about the programme objectives and responsibilities through one-day workshops. Once schools had been reached and teachers selected, teacher training sessions were held. UNICEF was not involved in reaching out to schools directly, as it was agreed that programme adoption needed to go through DoE structures.

Stakeholder sensitization was not without challenges. First, there was a need to show the **added value** of the programme to the DoE, especially in the context of other existing science and innovation programmes in Telangana. Implementing partners pointed out that innovation was not a key issue on the DoE’s agenda, and that staff were not necessarily familiar with concepts such as human centered design. Consequently, TSIC’s involvement as a specialized quasi-governmental agency was considered essential to help advance this agenda. The programme’s sensitization of DoE’s ‘nodal officers’ (DSOs) and teachers was also considered key to enabling programme deployment. This was carried out through a one-day workshop.

Sensitization of officials involved disseminating the programme’s understanding of innovation, and why it is important for youth to learn about it. The evaluators note that the programme seems to be embedded in a broad concept of ‘innovation’, which is seen by the types of content taught on innovative thinking and problem solving. However, some key outreach decisions such as prioritizing science teachers for course delivery, seem to direct stakeholders towards a ‘narrower’ understanding of innovation (different, for example, from social or other types of innovation), and closer to other science-related programmes held in Telangana. The adopted notions of ‘innovation’ by stakeholders are discussed further in the section on students’ projects.



...initially, when we started with our first edition, they [DSOs] had their share of concerns because they felt that this programme was similar to the other programmes that were there, they said, already something like this is existing, so why do you want to do this again? So, we had to explain to them that our programme is not just a competition where students are being given a platform to showcase their ideas. No, our programme is a skilling programme where we are emphasizing on skilling the students [...] whereas the other programmes basically provide a platform for the existing student innovators, but our programme creates new student innovators in students who did not have any idea of innovation [...] then they understood the significance and now they are extremely supportive. ”

(Implementing partner 1)

Another key message that the programme sought to establish was that it held unique features (in particular, its upskilling of children and adolescents in human centered design), which made it relevant and valuable even in the context of an already existing variety of science and innovation initiatives across the state.

The last edition of SIC reportedly achieved notable strides, with marked **improvements in school participation rates**, and a **substantial increase in the number of participating student groups**. Stakeholders emphasized that teachers and other actors from the DoE found fewer difficulties in understanding and engaging with the programme compared to its earlier editions. Factors that played a significant role in getting the DoE staff onboard included the high quality of UNISOLVE platform’s content, which was recognized and appreciated by stakeholders, a strong focus on upskilling children, and the programme’s long-term commitment, making it more than just a one-off event.

The programme arrived at Telangana schools after DSO sensitization processes were carried out, and the channel was an official circular or communication sent out by either the DSOs or the DEOs to the

principals. This was confirmed by the various stakeholders interviewed. Only two teachers who had recently started (after the programme arrived) did not know much about the process. Most teachers⁶ and principals at the schools visited were unaware of the programme until the official communication, except for two teachers who reported learning about it through their network. Two interviewees from private schools mentioned low awareness of the programme at their school, possibly due to private schools' later incorporation and lack of DSO oversight.

Overall, sensitization of key actors appeared to be quite successful. From the discussions with DSOs, teachers, and principals, the evaluators note their understanding and acknowledgement of the programme's value for skill development. In the case of teachers, outreach efforts seem to have been successful in engaging them and promoting their buy-in. Most teachers interviewed showed evident signs of high engagement with the programme and they often went to great lengths to deliver, despite its demanding nature. The report discusses the teachers' role and experience further in Section 2.5.

Focal teacher selection

Principals of the participating schools were tasked with selecting one teacher who would act as the programme's 'focal' teacher. Interviews revealed that **science teachers were most commonly selected**, assuming their innovative thinking, interest in science and familiarity with technology and the course topics. Some principals also mentioned being encouraged by the programme to select science teachers. In the small sample under review, most teachers were female. Most teachers interviewed said they were appointed by the principals, although some also mentioned having expressed intrinsic interest and motivation to perform this task.



There is no rule that only science teachers should be focal teachers, but generally science teachers are appointed as focal teachers because science teachers are already innovative and do many experiments in terms of teaching, so school principals think that it will be easy for them.

(Focal teacher, M, at gov HS – IDI21)

Moreover, teachers who had **experience using digital technologies** seem to have been preferred as well. Most of the teachers interviewed reported having at least some prior experience using ICTs, such as PowerPoint presentations and use of projectors. Those who had little or no prior experience admitted their initial fear of using ICTs, which they overcame through their participation. However, DSOs and district coordinators consistently pointed out that ICT skills were a common knowledge gap among teachers, and technological issues presented a challenge in teacher onboarding.

Once the list of participant teachers and schools was set, the programme's training phase began. The next section discusses teacher capacity building.

1.2 TEACHER CAPACITY BUILDING

Evaluation sub-question

How helpful were the teacher training resources (sessions conducted across the state, handbook) for effectively supporting teachers in their role? [Effectiveness]

The teacher training programme was designed by the Inqui-Lab Foundation, which was also in charge of the training of trainers (TOT). Teacher trainers were collaboratively identified by Inqui-Lab in

⁶ Throughout this report, the evaluation team refers to the specific number of participants who mentioned or experienced something only in some instances, when they believe this information is relevant and enhances the significance of the finding. In most instances, however, they choose to employ terminology such as "most of," "some of," or "a few of" to reflect the intensity with which certain issues were encountered or referenced by study participants. They avoid the systematic use of exact numbers or percentages for two main reasons. First, including percentages could potentially mislead readers by implying a broader representativeness to the overall target population. Second, because data was gathered through 'open-ended' questions, not all participants replied to them in the same way or mentioning the same topics, and some may have not answered at all (i.e., in FGDs, when not all participants choose to share their opinion on all issues). Consequently, while using numbers could seem more precise, it would inevitably compromise accuracy and fail to capture the complexity of the findings. This is why in most cases the team has opted for these descriptive phrases instead.

coordination with TSIC. After the TOT, trainers were deployed to the field to conduct the teacher training workshops. Training was originally conducted online, as the programme's launch coincided with the COVID-19 pandemic's restrictions. During the 2022/23 cycle, the training underwent adjustments, including shifting to an offline mode for the first time. The in-person training was planned as a one-day bootcamp for teachers, organized in different batches (by districts). Programme implementers and DSOs interviewed pointed to a high level of participation by teachers in the in-person trainings and a high interest and engagement.

According to the teachers consulted, the teacher training covered basic information about the programme, the registration process, and the steps through project submission, including how to complete all the materials required from the platform. Implementers mentioned that teachers were also 'sensitized' about the concept of innovation and why it is important for students to learn about it. According to participants, the trainings were not limited to the course's contents, but included also 'interactive' components, reportedly training teachers about problem-solving skills, how to motivate students, how to facilitate the thinking process and support them in problem identification and idea submission.

Teachers perceived the training as useful and relevant to guiding students through the course. Most teachers felt upskilled in human centered design (which was new for them), and more resourceful in teaching methods (including facilitation skills and hands-on learning). Many of the teachers confirmed that they had learned new skills with the potential to be applied to their regular classes.

The evaluators found, however, **significant differences regarding teacher training across the schools.** Of the 15 schools visited, 10 teachers said they received training for their role in the programme (either in offline or online mode, or both), while 5 teachers across three districts mentioned not having received any training. These teachers were from SW (2), BC (1), government (1) and private (1) schools. At least two reportedly came into the project 'later' (i.e., a different teacher had been assigned before), while one mentioned that

“

No, I haven't taken any training for this. Ie of which I even faced many difficulties [...] There used to be a social teacher previously in this position [...] she is working here but I didn't get any help from her as she used to be occupied with the work allotted to her [...] We didn't get any training.”

(Focal teacher, F, at BC school – IDI5)

“

No [training]. Neither online nor offline. We are given a website link, no training except [what] we looked online.”

(Focal teacher, F, at SW school – IDI3)

there had been just one online meeting explaining programme objectives but the teacher did not consider this a training. The teachers who reported not doing any training utilized coping mechanisms, which included going over the platform contents on their own, doing online research (i.e., looking at YouTube videos), reading the handbook materials, and making use of their previous knowledge.

For the teachers that reported attending training, three had joined a one-day or half-day workshop in person, three had attended online training only, while another three had attended both off and on-line sessions (and one teacher respondent did not specify).

Teachers also reported having been part of **follow-up online sessions for guidance via Zoom calls**, and having received **support via WhatsApp groups** (see 2.3 and 5.1 for more on these monitoring and coordinating mechanisms). The handbook materials were, however, not frequently mentioned by teachers. Most teachers interviewed were **unaware of the existence of handbooks** or booklets, while four principals and two DSOs mentioned the need for teachers to have books or handbooks as support. This leaves the open question of when the handbook was made available to teachers and why these actors did not know about its availability. Only two of the teachers interviewed mentioned very clearly having used the handbook, one from a government high school and another one from a private school.

Regarding the training, one important setback mentioned by both teachers and principals was the **limited amount of time**, and all expressed the **need for further training** to support them in their role in the programme. Teachers stated their interest in receiving more information about the topics, as well as more training on teaching methodologies:

“

They have to add some more knowledge and increase the number of days of workshops about preparing own materials, designs, lesson plans, which will be useful and helpful. ”

(Focal teacher, M, at gov HS – IDI21)

Furthermore, DSOs and district coordinators mentioned **teachers' capacity gaps in digital technologies**, for which they had to provide a 'heavy' amount of support. A vast number of challenges were faced during the teacher training for onboarding them to the platform, including registration and log-in issues. Implementers mentioned that many problems related to teachers' registration in the portal could be solved with the in-person training sessions. Further, they saw these sessions as an opportunity to better engage teachers than with online trainings.

Programme implementers fully acknowledged that the training for teachers was insufficient, and they had begun to explore other training formats to build better capacity among teachers.

“

When they had to conduct the training online and when they had to do the registration by themselves, they were facing some kind of technical issues. They were not able to do it by themselves. Whereas here in the physical training (...) our person was there to actually troubleshoot it and help them register. ”

(Implementing partner 2)

“

We need trainings offline along with online sessions also. [...] In online training, some may face network issues, and some may feel discomfort in raising their doubts as it happens for 170 people at once. ”

(Principal, F, at private school – IDI14)

“

They are feeling burdened with this additional work. So, they want relief out of it. We are giving certification to them, but they are feeling it is worthless. ”

(DSO 2)

As mentioned above, the first step was the shift to offline training, a modality which reportedly was widely preferred by teachers, principals, as well as DSOs and district coordinators. The offline training modality overcame the challenges of connectivity, teachers' difficulties with ICTs due to limited skills, and the large groups in the online set-ups, which inhibited teachers from asking for support. However, teachers also appreciated the follow-up support received through online sessions and WhatsApp groups.

Two interviewed teachers expressed concerns about in-person training: one regarding the burden of attending it in their leisure time, and another mentioning transportation costs. A DSO also noted that longer trainings could be challenging, as they take time away from teachers' schedules, adding to their overall burden.

Programme implementers discussed additional ideas being considered to enhance capacity building. These ideas include longer/more intensive training, more periodic training, certification for 21st-century upskilling, and recognition of teachers' efforts. The topic of certification was specifically raised by the interviewed DSOs. While teachers primarily expressed a desire for 'more training', some DSOs highlighted that teachers do not perceive the certifications offered by SIC as valuable.

2 Programme Uptake and Experience

2.1 STUDENT SELECTION

Evaluation sub-question

Did students have an equal opportunity to participate in the programme? (age/gender/academic levels) [Relevance]

This section explores rights-holders' equal opportunity to participate in the programme. Over the course of multiple implementation cycles, the programme has consistently witnessed a steady increase in the number of school students able to participate. Key informants have reported a stark rise in both the number of students per school (first five, now 20) and the total count of participating schools, signifying a substantial improvement in rights-holders' opportunities to participate.

Despite this, the programme design in the last cycle still had to follow a selection-based approach, given that only 20 students per school could take part (between 10 or 20 per cent of the student pool at the school, according to implementing partners' estimations). Therefore, this **selection-based approach constitutes the first 'filter' for rights-holders' participation**. Focal teachers oversaw student selection to participate in SIC. Only one school visited mentioned that the selection had been made by the principal instead, due to a short deadline. In the last cycle (2022/23), implementers also provided teachers with a 'form' to guide student identification and selection. However, programme implementers were reportedly not aware of how the selection process was done at the school level. This shows one limitation of the 'cascading' approach to programme delivery in terms of visibility, as well as the safeguarding of its approach to inclusivity.

Stakeholder interviews indicated that **teachers received a set of guidelines for student selection**. One key instruction emphasized inclusivity in selecting rights-holders, to consider **not only academic achievement** but also other features like creativity or class participation. This

guideline aimed at discouraging teachers from choosing only the 'top' performing students, instruction which was **partially heeded**, as reviewed below. Additionally, the programme specified that participation should be voluntary, and that a minimum of one and a maximum of 10 teams be set up for teachers to manage.

The evaluators found **significant variations in how schools conducted student selection**. Interest was always considered, but rarely the only criterion. Most teachers emphasized selecting interested students, but the process by which students were informed about the programme was not systematically reported. Only a small number of schools relied solely on interest for enrolment, while most set specific criteria for recruiting interested students.

In most of the schools visited, the selection-based approach meant that a second 'filter' was used for selecting participants: the evaluators found that **rights-holders with a certain set of characteristics (skills and/or behavioural aspects), were more likely to be selected**. These characteristics included the presence of one, or combinations of, academic performance and intellectual capabilities, soft skills (such as creativity, problem solving or communication skills), behavioral aspects (such as class attendance, participation, level of activity in school programmes) and specific knowledge sets (e.g., science, math, English, digital skills). Each school opted for different combinations of these criteria.

Academic performance and intellectual capability were never the only factors considered. However, out of 15 schools, at least nine considered these aspects important. They were often combined with students' level of participation in school (four cases), followed by soft skills (three cases), science knowledge (two cases), and digital literacy or interest (one case). Schools also varied in their approach to academic criteria, with some targeting high-performing students, while others valued a broader range of capabilities. These two approaches are exemplified here:



R: ...the students who are sharp, clever and come forward with ideas, we chose them.

Q: But there would be many students with those criteria, wouldn't there?

R: Yes, but we filtered those students accordingly and chose the best among them

(Focal teacher, F, at BC school – IDI5)

At least three of the 15 schools visited (two KGVV and one government school) reported considering **access to mobile phones or connectivity as one of the criteria** for student selection, due to the implementation difficulties created by lack of access. This is an indication that access to both equipment and connectivity had profound implications for student participation, even sometimes affecting student selection. The implications of the challenges to access are discussed in Section 2.4.



...here phones are not allowed for the students to use in schools or hostel, that's why they [students] are doing it in my phone. So that for this reason we have to select at least 2 [students] from the previously mentioned groups, a girl who is having a smart phone with her or those parents having smart phones at their homes, as they will go home only during Sankranti and Dussehra festivals, etc. Even students who have the capacity to maintain the data balance all the time.

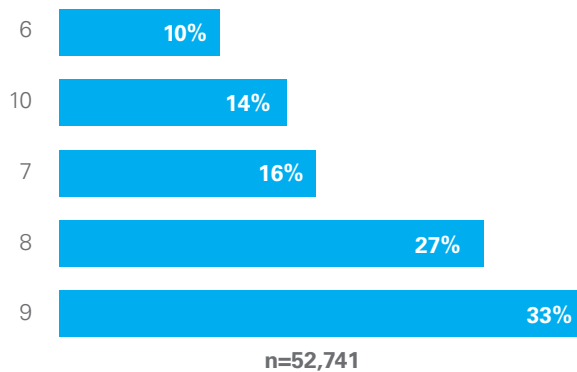
(Focal teacher, F, at KGBV school – IDI9)



Currently I am looking for students who have mobile facilities and some creative skills.

(Focal teacher, F, at gov UPS – IDI1)

FIGURE 6 | GRADE DISTRIBUTION OF ENDLINE SURVEY PARTICIPANTS



Source: Endline student questionnaire

Another factor that commonly influenced rights-holders' opportunities to participate was age and school grade. Even though the programme was open to students from Grades 6 through 10, many of the schools visited decided to work primarily with students between Grades 7 and 9 for several reasons. Children in Grade 10 were not considered as the most appropriate target, due to their more demanding studies and exams, as well as their impending exit from the schools, while those in Grade 6 were generally considered to be too young, with limited knowledge or not displaying the appropriate 'mentality' to take part. Additionally, the schools visited tried to achieve a balance between students from different grades, including both younger and older children in the teams, which also affected rights-holders' overall opportunities to participate.

These preferences are largely mirrored by the composition of students who completed the baseline survey (see Figure 6). Sixty per cent of these students were in Grade 8 or 9, while only ten per cent of students were in Grade 6, and fourteen per cent were in Grade 10.

No explicit gender bias was found regarding selection or participation in the small sample of schools visited. All mixed schools had reportedly included a similar percentage of boys and girls and had for the most part created mixed teams. At one school, in addition to mixed teams, the teacher created one group of only girls and one group of only boys to encourage competition between them.



As to maintain challenging competition between boys and girls, our sir has made 2 groups one with only boys and the other with only girls, and for the rest of the teams, in order to maintain equality in thinking and to have problem solving capacity he made a mixture of both. ”

(Male student at gov HS – FGD21)

There was, however, a higher number of female students participating in the endline survey, representing 59 per cent of programme participants (see Figure 7). The higher attrition rates for male students (26 per cent versus 22 per cent for female students) contributes somewhat to gender disparity in survey respondents at the endline, however most of this disparity was also present in the baseline survey. It is not clear to what extent this original disparity was due to a higher number of all-girls schools registered in the programme, or to a higher percentage of female students who were selected or willing to participate within mixed-gender schools.

Although it is not possible to establish whether there is an overall higher participation of girls in SIC, the generally high female participation suggests a positive trend, particularly considering the significant barriers girls usually face in accessing STEM and IT education. In India, a study by UNESCO (2020)⁷ highlighted the multitude of social, cultural, and psychological reasons that generally result in lower engagement and participation of girls and women in STEM fields compared to boys and men, ranging from societal norms and expectations to a reported lack of self-confidence and limited access to resources. However, the qualitative study also found some societal challenges pointing to barriers for girls’ participation, particularly in out-of-school settings, which should be considered moving forward. This is further discussed in Section 2.4.

Lastly, a few teachers and principals referred to a feeling of unease, or ‘guilt’, for having to choose between students and not being able to allow all those interested to become part of the programme.

FIGURE 7 | GENDER DISTRIBUTION OF ENDLINE SURVEY PARTICIPANTS



Source: Endline student questionnaire



We feel guilty about turning down such interested students.

(Focal teacher, F, at SW school – ID117)

Yes, something like that did happen, students got upset and sad. ”

(Focal teacher, F, at BC school – ID15)

2.2 CURRICULUM AND COURSE CONTENT

Evaluation sub-question

How engaging and relevant was the content for students?

What did the students like and dislike about each of the course elements?

How clear and understandable were the following course elements for students: videos, reflective questions, quizzes, additional reading materials, worksheets)?
[Relevance]

Interviewed children reported **that videos were easy to understand** and highlighted the clarity and simplicity of the language used. They found the videos **interesting and meaningful**, primarily due to the content’s relevance to their daily experiences. Both students and teachers highlighted how the video characters were successfully designed and adapted to make them relatable. Some children

⁷ STEM education for girls and women: breaking barriers and exploring gender inequality in Asia. UNESCO Office Bangkok and Regional Bureau for Education in Asia and the Pacific (2020). Available at: STEM education for girls and women: breaking barriers and exploring gender inequality in Asia - UNESCO Digital Library



Q: How did you remember that video concept?

R1: It is attached to our daily life.

R2: Yes, it speaks of our daily activities. ”

(Students at g-v HS - FGD27)

even mentioned that it looked as if the videos were shot in their own school. This made the course content very attractive and helped to boost their interest and engagement. Several students asked for more videos to be included in the course.

Teachers emphasized that videos were highly effective in helping all students understand concepts easily and visually, surpassing traditional teaching methods.

Reflective questions were raised after each video and with the purpose of encouraging students to reflect on the topic and express their own opinions, rather than seeking a right or wrong answer. This **elicited confusion in some students**: while half of them found the questions easy, the other half said they faced difficulties understanding and answering them.

Regardless of the perceived level of complexity, **most students valued this part of the learning journey** as an interesting exercise and enjoyed being asked to express their own thoughts.



Students can easily understand through videos and can visualize rather than reading and writing. ”

(Focal teacher, F, at SW s-hool - IDI11)



R1: They frame a few questions from outside of the syllabus like social questions not related to the concept. So, we feel they are difficult to answer.

R2: We found them hard to understand. ”

(Female students at SW s-hool - FGD17)

Participants' assessments of the programme's quizzes were also mostly positive. The majority found **quizzes easy, simple, and interesting**. They appreciated that quizzes **enhanced their knowledge** of the topics covered by the videos, a point also highlighted by the teachers.

Students generally agreed that if they were able to watch the videos attentively and understand them properly, there was "no difficulty in understanding the questions" (Students at SW s-hool - FGD11). Otherwise, difficulties could arise. Some students resolved this by playing the videos again when necessary.

However, one UPS student reported **struggling to understand some of the questions** "when long sentences are given" and one group from a SW school said that they had not "understood the questions correctly in the beginning" because they did not "know the meaning of certain words" (Students at SW s-hool - FGD17), such as "stakeholders". The coping strategies used by students in these instances included seeking additional explanations from their teacher or engaging in group discussions when the quiz questions were not clear or difficult to solve. Some school staff (teachers and principals) also highlighted the complex terminology used in the quizzes (and in reflective questions) as a challenge for students to comprehend and answer them.

Evaluation sub-question

Did the additional reading material help in understanding the module's content better? [Relevance]

Students who were aware of the **additional reading material** generally found the **material to be useful and interesting**. A teacher at a government HS specifically said that the "additional reading material is very useful for understanding in situations where the content is not understood". However, a principal at a private school complained about the language being hard to understand, making it difficult even for the teacher to explain, and a teacher at another private school mentioned that students showed more interest in the videos and interactive content, rather than in reading. Indeed, the post-test survey

found that **the additional reading material was the course component that students found more difficult or less enjoyable** (see Figure 8).

On the other hand, **at least six of the focus groups appeared not to know of the existence of the additional reading material**, and at least teacher confirmed that she never managed to print it because of time constraints. These observed disparities in the delivery of course components are discussed further in Section 2.4.

Evaluation sub-question

Were the worksheets useful to guide students? Did the students have enough time to complete them? [Relevance]

Finally, the last part of each module involved students filling in a worksheet as a team. **Students generally found worksheets very useful** in guiding their journey and in designing their project idea. The worksheets reportedly helped them to remember the concepts and main ideas covered through the module, and provided a step-by-step problem-solving strategy.

Completing the worksheets reportedly took **intensive teamwork**, as students had to sit together to discuss and eventually agree on the answers. Students' opinions regarding the difficulty level of the worksheets were evenly divided. Even within the same focus group, **some students found the task difficult and some easy**. Complaints about the worksheets being challenging were linked to difficulty in understanding the questions, as well as **insufficient time** to complete them.



It helped us to solve the problem step by step by following a pattern in different situations. Helped us in increasing our memory power. We understood how to work in a team. Learned how to solve a problem exactly similar as in the videos – like a pathway.

(Male student at SW s-hool - FGD20)



Q: Ok. Which don't you like?

M4: Worksheets sir.

Q: Why so?

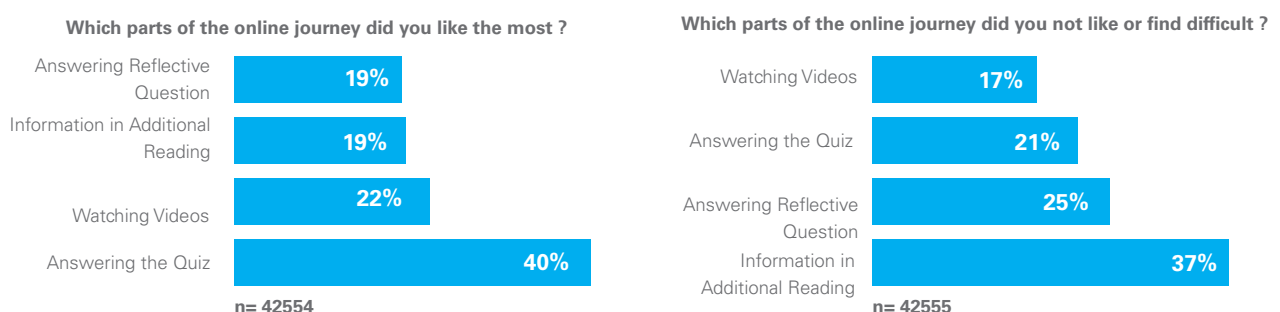
F3: Because when we don't understand properly, we may make mistakes, there is tension due to the limited time because of heavy schoolwork.

(Students at private s-hool - FGD14)

However, the time constraints were not a common challenge for all students; a similar number of them said the time to complete the worksheets was sufficient. They did so mostly after class, in interval periods, during leisure time, study hours or in the evening. The time needed to complete the worksheets was reportedly **between 20 and 60 minutes**. Network issues were also mentioned by students as an issue in completing the worksheets, while others avoided this problem because the teacher had printed them.

In addition to this qualitative data, the survey administered to students also sheds light on which components they liked, and which they disliked

FIGURE 8 | STUDENTS' PREFERENCES REGARDING COURSE COMPONENTS



Source: Endline student questionnaire

or found difficult. As the chart below shows (see *Figure 8*), and the opinions gathered through the FGDs confirmed, **quizzes were the part of the course that students enjoyed the most** (with 40 per cent of the votes), while **additional reading materials were found difficult or not enjoyable by 37 per cent** of the student respondents (n= 42,555), followed by the reflective questions (25 per cent).

2.3 TECHNOLOGY PLATFORM'S BENEFITS, STRENGTHS, AND SHORTCOMINGS

Evaluation sub-question

What are the platform's benefits, strengths and shortcomings as identified by teachers? And as identified by the participating students? [Replicability/Sustainability]

The platform's benefits and strengths lie mostly in its **interactive nature** and the fact that it was adapted to be **accessible from a mobile phone**.

The **availability of Telegu** language was also a strength of the platform's design. However, accounts from study participants reveal a contradiction regarding this function of the platform. While several schools confirmed that they were able to choose their preferred language for content display (English or Telegu), the evaluation team also found instances where school participants were unaware of the language option or had limited knowledge about it. Three schools visited (private and BC) accessed the platform in English, unaware of the Telegu option, which created comprehension problems for some students. Additionally, two schools complained about inconsistencies in the content's language, with some parts being in Telegu and some in English and/or using English terminology. Overall, these contradictions underscore the need for improved communication and clearer visibility and instructions regarding language selection on the platform.

Focal teachers mostly found the **digital approach** and the **content of the platform to be highly useful** for teaching. They reported that digital delivery effectively motivated students and accelerated their

understanding of concepts compared to traditional teaching methods, while at the same time reducing the load on teachers. They also expressed genuine enjoyment in incorporating this type of content and methods into their teaching.

However, despite teachers' motivation to use ICTs in the classroom – and the fact that most had had some ICT experience – some noted **room for improvement of their digital skills**. DSOs and district coordinators pointed out that most teachers had difficulties with using digital technologies.

Defective and/or limited equipment (i.e., laptops or projectors not working) posed further challenges to the access and use of the platform. In the case of one school (Students at SW school - FGD19), bad audio for the video was mentioned (most likely related to the equipment at hand), which led to the need to use a headset. But, again, because not enough devices were available, it took longer for all students to be able to watch and listen. In addition, many student groups referred to the website **buffering** while loading, as poor connectivity was common when all students were trying to work at the same time.



We love to work with ICTs with the intention that students will not understand and remember some things if they are told orally but by saying the same using ICT they will understand easily and remember easily.

(Focal teacher, M, at gov HS – IDI21)

It [platform] reduces the load on teachers and students can understand the concepts well.

(Focal teacher, M, at private school - IDI15)



Although the guide teachers are a little senior, it is a little difficult to work with ICTs, they do not have sound knowledge even in terms of digital [skills], but the teachers in the school are selected in terms of tenure.

(DSO 1)

“

... this is an online programme, and we have a lot of problems with the network, it's very difficult for children while logging in, and it takes a lot of time to load as I said there were network issues in school.”

(Focal teacher, F, at SW school - IDI11)

There was at least one account of a teacher using conventional teaching methods to explain concepts (i.e., writing on boards), due to the lack of connectivity. This demonstrates how **internet unavailability was a serious issue for programme implementation**, not only for the students but also for the teachers.

Students and teachers also mentioned **errors when logging in** to the platform (this was mentioned by student groups in at least four schools), including time-outs due to poor connectivity, 'human error' in submitting log-in credentials, and problems linked to the operating system (as it would work on some computers or phones but not on others). Many referred to login errors, particularly at the beginning of the course, while later on they were less frequent. District coordinators reported that there were many technical problems at the start, which they attributed both to the difficulty of the website's access, as well as the lack of digital skills of teachers and students.

“

And when it comes to our website, it's not even so very simple. It's very complicated. And when even a student should log in, whenever a student tries to log in, now it is asking underscore, which is very unusual to use in our daily lives [...] also sometimes this thing happens, they put some capital letter and when it comes a small letter, they could not log in, that we cannot do anything. (...) whenever a same name, same class and same age and same gender is matching to another person, this is not loading up.”

(DSO 1)

“

Q: What problems are you facing while login?

R: In Windows 10, it shows error in login.

Q: What have you done to resolve the issue?

R: I used another laptop without Windows10.”

(Students at private school - FGD15)

Other errors related to the platform were the repetition of videos, playing again without displaying the quizzes, students getting repeated questions when doing the quizzes, or the platform not allowing them to submit the answers.

Evaluation sub-question

What changes would students and teachers recommend in future iterations of the platform? [Replicability/Sustainability]

Students and teachers stressed the **need to fix the technical issues** that they encountered while using the platform. They mentioned changes such as increasing the number of videos, deleting repeated videos, and fixing bugs such as voice and video not matching or addressing technical difficulties during the log-in process.

Despite the benefits of using ICTs identified by all participants, the challenges faced because of limited digital devices and poor connectivity led to a demand, by study participants of all kinds (students, school staff, DSOs and district coordinators), to **implement the programme in a hybrid mode, or at the very least, make some materials available offline**. For example, as some students used the worksheets as printouts, they requested to do the same with quizzes. The interactive component of the quizzes was, thus, in their experience, not worth the challenge faced to get their hands on a digital device.

To alleviate technical difficulties, participants and district coordinators also suggested **simplifying the website**, making it easier to navigate, and reducing the data load it requires.

What barriers or enablers were encountered in implementing, monitoring, and evaluating the platform? How were challenges resolved? [Replicability/Sustainability]

Implementers used different channels for getting feedback on the platform's content and functioning. One of these was Inqui-Lab Foundation's **request for feedback from teachers** and students, although information was not available on how regularly and systematically this was done.

Another line of communication was established by setting up **follow-up online sessions** on Zoom between the SIC team and the schools to resolve technical issues. Implementers realized that there was a need for more direct and immediate contact points to address technical problems and support schools. For this reason, **WhatsApp coordination groups** were created for teachers to directly ask questions and seek support from district coordinators and volunteers to resolve issues related to the platform. The support received by teachers through these groups played a key enabling role for programme implementation. However, the ability to promptly resolve some of the technical issues was reportedly hindered by some communication lags between the implementation and the IT team, resulting in a lack of agility. Issues related to stakeholder coordination are explored further in Section 5.

2.4. ACCESS AND PARTICIPATION

Evaluation sub-question

How equitable is the access to and use of the platform and course components for all types of students (considering disability status, digital literacy, cultural background, and material conditions)? [Relevance]

The programme's conscientious **efforts to reach a wide variety of school typologies** in the state, even the most remote, are of note and have been instrumental in its ability to increase its scope and reach students who otherwise would not have had the opportunity to be exposed to

the concepts and skills promoted by UPSHIFT. The programme has also managed to achieve a **high female participation rate** (participation of girls-only schools and balanced representation of girls in mixed-gender teams). This is particularly noteworthy in a context where girls typically have fewer opportunities to benefit from IT-related initiatives (see 2.4.2), thus positively aligning itself with the promotion of CEDAW principles. However, the implementation of the programme equally in all types of schools (and its frequent implementation outside of school environments) brought to light a significant challenge: ensuring equity in its execution. That is, the programme implementation is not yet equitable, as **'rights-holders' access to and use of the platform and course components are significantly determined by the availability of material resources and infrastructure** (mainly digital devices and connectivity), which are sufficient for some, and very scarce for others.

In terms of material resources, two thirds of the schools visited lacked functional computers or laptops available for students, and only one third had a reliable internet connection. These findings are in line with overall estimates for India, which indicate that only 34 per cent of schools have internet access and facilities, and among those with internet access, 24 per cent are government schools, 53 per cent are government aided, and 59.6 per cent are private (UDISE, 2022). In this sample, only five schools (three SW, one private, one UP) gave students access to computers for SIC work. However, in four of these schools, the internet signal was poor and/or suffered from frequent power cuts, which impeded accessing the platform from the computer.

This situation resulted in mobile phones being the most common device used by students. However, the availability of phones was very limited. In this context, out of the 15 schools visited during data collection, only four had sufficient functional devices (computers or phones) to allow students to go through the course with relative comfort and at their own pace. The rest of the schools had **insufficient or very scarce equipment**, students mostly accessed the platform through phones shared by groups of five or more, and their availability depended heavily on their teachers' willingness and ability to provide them.

The availability of **equipment and connectivity differed significantly among school types**. In our interviews with key informants, it was consistently acknowledged that private schools and residential schools (excluding KGBV schools) generally received more funding, resulting in better equipment compared to government schools. This statement aligns with what was observed during data collection, where government schools and KGBV schools were found to have fewer resources. For instance, most government and KGBV schools visited had only one mobile phone available for multiple teams.⁸ On the other hand, the four schools visited that reported having sufficient equipment were the two private unaided schools, plus two of the SW schools. In terms of internet connection, none of the four KGBV schools visited had Wi-Fi, while all SW schools and private schools did. Given the very limited sample size, it cannot be assumed that this trend holds true for all schools in the state. However, it does provide an indication of the disparities discovered in terms of infrastructure across the schools examined.

Regardless of the availability of Wi-Fi, **most schools ultimately relied on internet data** to access the platform (as mentioned above, schools with Wi-Fi experienced poor signal strength or frequent power cuts). As the phones used mostly belonged to the teachers, the internet data was overwhelmingly provided by them as well. As a result, **the data was often limited**. Students frequently mentioned running out of data while going through the course components as one of the main technical challenges encountered.

As for **location**, students from residential schools accessed the platform mainly from within the school premises, but a few also did so occasionally from home when visiting their families. On the other hand, students attending daytime schools more commonly accessed the platform from home, in addition to doing so at school, but this was only possible for those whose parents owned mobile phones and allowed them to use them. For these students who were expected to access the



Disadvantages are that our school is located in a rural area so sometimes the internet connectivity is poor and children from economically weaker families are unable to get mobile phone internet connection, so they have difficulty in accessing the SIC programme.

(Focal teacher, M, at gov HS IDI21)

platform from home, additional challenges arose, such as lack of connectivity, and lack of guidance from the teacher for technical issues or to clarify doubts regarding the content.

Consequently, students' experience and satisfaction with the programme starkly contrasted based on the material resources at their disposal, as the following two testimonials exemplify:



F5: We have 15–16 systems in our school sir, among which 3–4 are working well.

Q: Ok. Are they enough for you all to complete project work?

F6: Yes, sir they are sufficient for us to do the work as mostly we do on phones after going home.

Q: Oh good. At home whose phones do you all use?

F1: We use our parents' phones sir.

(Female students at private school – FGD14)

The unequal availability of the necessary resources to access and use the platform thus created a **breach between residential school and daytime school students, as well as between students of different socio-economic backgrounds**.

Students who faced greater challenges in accessing phones or laptops had less time to complete each course module, and fewer opportunities to do

⁸ It is important to acknowledge that the distribution of school types in the sample does not accurately reflect the actual distribution of participating schools. Government high schools constitute 73 per cent of the total of schools registered in SIC in Telangana, followed by KGBV schools accounting for 8 per cent. Consequently, the findings presented here regarding the challenges more commonly faced by these school types hold significance for the majority of participating students.

so individually at their own pace, as intended by the programme design for at least the first three components of each module (videos, reflective questions, and quizzes). For example, they could not reflect longer on questions or re-play video fragments when necessary, something students mentioned as a helpful coping mechanism (see Section 2.2). The potential differential effects caused by the scarcity of resources are discussed further in Section 4.

Another school condition relevant to programme access and participation was the **availability of dedicated time and space** for students to engage in SIC work. Two schools visited (one government HS and one BC school) had principals who allocated specific time slots for participating students to focus on SIC work. In the rest of the cases, students used their free time, usually reserved for play. Residential school students also dedicated evening time to SIC.

The absence of dedicated time for SIC work posed an additional challenge for teachers. Given their own limited time, they often had to choose between allowing unsupervised access to the UNISOLVE platform, using their own free time to teach, or partly compromising their regular classes to support SIC activities. Sometimes they also had to negotiate with teachers from different courses to get the SIC students together. The challenges with time management led to discomfort and a sense of burden among some teachers.

The lack of time reportedly also affected some teachers' capacity and possibilities to guide students with differential needs, as they recognized that some students needed more support than others.



It would have been better if there was a separate teacher with good digital literacy instead of me coming to this programme. Better givers than me. I have other classes; I just tell them to watch and leave. I must have my classes, otherwise there will be trouble. I will arrange a room for them, give them my phone and leave, (...) Couldn't stay longer, I couldn't find time even if I felt like it.

(Focal teacher, F, at SW school – IDI3)

2.4.1. Uneven delivery

Comparing the testimonies from students across different schools, as well as within the same school, the evaluators found **several instances that indicate an uneven delivery and utilization of the course content and components** within and across the participating schools, which can be attributed mostly to issues around available resources and insufficient time.

For example, one group of students (from a government HS) reported not having access to log-in details and not having done any quizzes, reflective questions, or worksheets after watching the videos. However, participants of the second FGD organized in this same school did log-in and answered the quizzes and questions. Additionally, despite the focal teacher reporting that five teams were created in this school, the monitoring data available shows only one team registered. These contradictions point to the possibility that some students at this school were exposed to the videos by their teacher, without being registered as SIC participants. This would explain why some students didn't have log-in details. The teacher's explanation of this issue (quoted below) points to the limitation of phones as the reason for unequal access. The fact that students without login details did watch the videos appears as potential anecdotal evidence of the teacher's effort to expose as many students as possible to the content, even if the material conditions restricted their possibility to get the full experience.



Q: Were all students able to access it or only few people were able to access it?

R: Not all the students were able to access it.

Q: But mobiles were not given to their hand?

R: No, few students did try in their personal mobiles but later complained that they couldn't. Few students could do it and few students could not do it.

Q: What was the reason some people could do it whereas other students couldn't?

R: Few students were able to do it because I was available for them with my phone and guided them one by one and the others did not pay attention to it and were a little slow.

(Focal teacher, M, at gov HS – IDI27)

Inconsistencies also arose regarding the additional reading material, the fourth course component. As mentioned in Section 2.2, six of the focus groups appeared not to know of the existence of the additional reading material. Other students and teachers' responses raise doubts about their understanding of the moderator's question on the reading material, as they mentioned other components in their answers, such as the handbook or the worksheets. One teacher (at a KGBV school) admitted that she downloaded the material but failed to collect the printouts because of time constraints. Other students in the same school contradicted each other on whether they were provided with additional material or not. This suggests a potential **inconsistency in students' access to the material or general awareness of and engagement with the course components**.

In another instance, at least in one school (KGBV) students never completed the worksheets because the teacher could not cover the printing costs.

Further, the evaluators found **differences in the time students in different schools took to complete the course modules and submit a project**. Some finished within one month, others in two, and some had not yet submitted a project idea at the time of data collection, despite having started three months prior. The delay was reportedly caused by a lack of available resources.

2.4.2. Gender differences

As mentioned in Section 2.1., no school mentioned gender as a criterion for student selection, and participants across the board insisted on the **gender equality and balance of the teams' formation**. Thus, the programme sought to guide its implementation by ensuring gender-balance and non-discrimination based on gender.

“

Q: Why couldn't you do the project even though it was interesting?

R: Because we did not have mobiles available.”

(Student at BC school – FGD5)

There were, however, several instances informative of **gender bias regarding participants' perceptions of students' abilities**. Students, focal teachers, principals, and DSOs emphasized their conviction that girls tended to possess a greater aptitude and inclination for studies, as compared to boys, including motivation, intelligence, creative thinking or discipline.

This allegedly superior aptitude led to girls being given a slight priority over boys in at least one of the schools visited (UPS).

“

Definitely, gender difference is noticed, as girls will be more involved actively than boys, they work harder than boys work, will listen better and the success rate is higher among girls than boys is found.”

(DSO 4)

“

The girls will have more creative thinking rather than boys.”

(Principal at KGBV school - IDI8)

“

Boys usually think about society and girls about their studies. But both will get disturbed by family issues. In terms of IQ, girls will have higher IQ than boys. Girls are more interested in studies. Their way of thinking is higher in girls. [...] the differences exist between them in behavior and discipline. Girls are more disciplined than boys.”

(Principal, F, at gov UPS – IDI2)

“

Here boys are given less preference than girls as most of them don't have interest in studies; doing project work additionally their strength is lesser than the girls, so girls were given priority.”

(Male student at gov UPS - FGD23)



Q: What do you think about the ratio of boys and girls in the group for the project?

R: Usually girls are high when compared to boys. Their percentage was 60 per cent.

(Focal teacher, F, at gov UPS - IDI23)

As seen in Section 2.1. (see Figure 7), based on the students who participated in the endline survey, there was indeed a higher number of female students, representing 59 per cent of survey participants, but this finding is difficult to interpret, particularly in the context of gender-segregated schools.

One dimension where study participants considered boys as better equipped was technical skills. However, participation in SIC gave girls the chance to learn and apply technical skills, as highlighted by the principal of a KGBV school:



Generally, boys can solve the electric issues rather than girls. But due to this project, girls are learning them. Recently a 10th class girl of our school who participates in this programme repaired switch in CCTV.

(Principal, F, at KGBV school – IDI30)



There are slight differences (between boys and girls) because after going home from school, girls are somewhat busy with household chores whereas boys do not have such chores, so boys are more likely to concentrate more on SIC (...) Girls can't concentrate on SIC as soon as they go home after school due to work at home and mobile accessibility is very less for them so I think it would be good to make them participate in SIC by devoting more time to them at school. [...] As a part of SIC programme I have faced some challenges in taking the students outside to do the project. The parents of girl students are not willing to send their children outside.

(Focal teacher, M, at gov HS - IDI21)

On the other hand, the focal teacher of one government HS highlighted the specific challenges that some girls would encounter to equally engage in in SIC. First, the domestic labor expected of girls at home reduces their time to access UNISOLVE outside of school hours, as compared to boys. Second, parents' hesitation to allow girls to go out posed a difficulty for this teacher to bring female students along in their visits to the village to learn about the community's problems.

The evaluators did not find further evidence of this challenge having an overall effect on girls' participation rates. It is, however, a risk to consider when schools encourage students to advance SIC work at home instead of at school.

2.4.3. Other demographic factors affecting participation

Another teacher encountered a similar challenge in taking students outside for community visits. In this case, the teacher related struggling to convince parents from poor families, and from Muslim families, especially during COVID-19 times.

Additionally, some implementers mentioned the **irregular attendance** of some students, particularly in rural areas, which hindered their participation. The data collection team was also made aware of this issue in off-the-record conversations with students and school staff. From the FGDs, evaluators encountered at least one student participant who had not attended school for two months during the programme implementation, and the group explained that other students had also been absent. In some cases, students' attendance was hindered by their **families' high mobility**, with students who moved permanently, or whose families moved temporarily for work. One principal also observed that "students' parents sometimes take them to



We need to convince the parents of poor students and Muslims students to participate in this project. [...] Muslim students' parents restricted us not to take them out in covid times.

(Principal, F, at gov UPS – IDI2)

work along with them” (Principal, M, at gov HS – ID128), a situation that would further impact their attendance and participation.

In terms of **disability status**, when asked, teachers said that no student was excluded on the basis of family background, gender or disability. However, evaluators could not gather any evidence of students with disabilities being selected to participate in SIC at the schools visited, as this was not mentioned as part of the selection criteria (see Section 2.1 Student selection) and there was **no specific effort recommended by implementers for their active inclusion**. Further, evaluators found **no evidence indicating that the platform design had taken into account the differentiated needs of students with disabilities**, particularly those with hearing or vision impairments, whose access to the platform’s content and course participation would be significantly hindered without the integration of functions such as closed captions, transcripts, audio descriptions or screen reader compatibility. Further, students with disabilities would require a device of their own to properly engage with the course content, something not available in most schools.

2.5. TEACHER ROLE

Evaluation sub-question

How available and effective was teachers’ mentorship? Was their role clear? [Effectiveness]

Evaluation sub-question

What could help teachers perform their role better? [Replicability/Sustainability]

Focal teachers were tasked with **key programme implementation tasks**, including student selection, registration, onboarding onto the platform and the course, student mentoring and guidance throughout the process, as well as making sure of its successful completion.

Teachers acted as **facilitators of the programme**. The positive role played by the teachers in this regard was highlighted throughout. Teachers’ support to



R3: Our teachers motivated [us] to join in this project as we can learn many new things.

F1: They explained the topics which are difficult to understand for us.

F3: They provided their mobile phones to watch the course.

R2: They help in identifying the problem and how to find the solution to problem.”

(Students at KGBV school – FGD7)

students was associated mainly with three areas: **motivation, technical support, and guidance**. First, all students mentioned that teachers encouraged them to be part of the programme and learn new things. Second, teachers provided students with technical support, helping them to register, and addressing any technological issues encountered. Third, teachers clarified the concepts that students found difficult or challenging, guided them in problem solving and critical thinking, and supported them in brainstorming and designing project ideas.

Teachers also proved to be **key enablers** for the programme beyond their prescribed roles and expected responsibilities. As explained in Section 2.4, in a context of limited (or unavailable) resources, teachers commonly provided students with their own mobile phones and internet data, **bridging key infrastructural gaps to allow for programme implementation**, as many schools had no functioning digital devices or internet connection for students to access the platform.

On top of the infrastructural challenges, teachers also had to **find solutions and adapt to the lack of dedicated time for SIC** in the school curriculum. This implied negotiating with other teachers or finding a space or specific time between classes or after classes for students to work on SIC. Overall, the challenge of limited time meant that teachers had to use their own free time and/or sometimes put their other responsibilities aside to be able to help SIC students. There were several accounts of teachers supporting students outside of school hours via calls, WhatsApp messages, or in-person, in the case of residential schools.

Most of the participants' accounts evidenced **highly available and engaged teachers** throughout. However, there were also a **few accounts of teachers acting in a more passive or limited role**, most likely related to their circumstances, workload, and interest, which defined their performance.

The sustainability of teachers' motivation and engagement

As has been shown, **teachers faced numerous challenges in fulfilling their role**. These were linked to the **lack of adequate infrastructure** for course completion, workload **burden** and, relatedly, lack of time and designated schedule for SIC.

Nevertheless, **teachers demonstrated exceptional dedication** to ensuring the programme's success. While some of this commitment may stem from a sense of duty – instilled through official communication received through hierarchical structures within the DoE, as well as being selected by their principals – the evidence of high teacher engagement cannot be solely explained by a sense

“

Some focal teachers think we have received orders from higher officials to be in charge of the SIC programme, so we participate in this programme and fulfil our responsibility. Some other focal teachers are inspiring themselves. They don't need help from anyone, but they think that they should succeed in this project on their own. Only from them do we get a good success rate. They are naturally aware of this project, have interest, and want to help the children in their own way to make this project a success. They do not take it as a responsibility but as a challenge.”

(DSO 5)

“

Every focal teacher has to handle SIC while conducting their regular classes, so they are making SIC successful by devoting time according to their ability. The role of focal teachers in SIC is very crucial, without them this SIC cannot be successful.”

(DSO 1)

“

Distributing phones to [students] and making them sit and work is very hectic as it requires a lot of mobile data internet connection, and we will not get any compensation for paying the internet bill. I paid the bill from my own pocket.”

(Focal teacher, F, at KGBV school – IDI9)

of duty and points to a **notable level of intrinsic motivation** among teachers. As DSOs put it, the programme's success relies heavily on the presence of such highly motivated individuals.

While implementers were aware of the teachers' burden, it was not considered as a major barrier for programme implementation, as they deemed that it applied only to a minority of cases. However, evaluation findings highlight how the significant burden placed on teachers led to discomfort and burnout, even among those displaying strong commitment.

The **programme's sustainability and scalability are at risk due to its reliance on teachers' motivation, willingness to contribute personal resources (time, phones, and money), and their tolerance for the burden imposed**. To sustain teacher engagement, it is crucial to address and alleviate this burden.

When asked about what could be improved, teachers first highlighted the need for **sufficient and appropriate training** to meet the programme objectives. This includes advanced facilitation and problem-solving skills, as well as ICT abilities, to bridge the capacity gap in their role. Teachers' limited ICT skills can influence the outcome of the programme. Furthermore, feedback from teachers, principals, and other stakeholders suggested that considering an **offline or hybrid** format for the programme could help them to address the challenges of limited digital resources and connectivity. The issue of limited and non-functional resources severely affected teachers' work.

“

I think it would be better if the entire SIC is also available offline then every single student can access it easily without any cost.”

(Focal teacher, M, at gov HS – IDI21)

“

It would be good if all the design models of this project along with the entire syllabus were printed in a booklet form and given in hard copy to the teacher and to the students.”

(DSO 1)

The demand for **additional support and resources** to alleviate teacher’s burden also emerged as a key issue to enhance the programme’s implementation and sustainability. Teachers mentioned the need to have a dedicated SIC teacher, or at least more than one teacher providing the SIC course at their school. As mentioned, teachers sometimes resorted to (informally) requesting support from other teachers, either to share their phones and data with students, or to contribute their inputs to students’ ideas. Further, having **hard copies of the course’s content** (i.e., book, or booklet) was mentioned by some principals, teachers, and DSOs as something that would be helpful for teachers to perform their role, as well as for students’ understanding.

Moreover, it was recognized by implementers and DSOs that **offering incentives and recognition** for teachers’ work could boost their motivation and improve their performance.

Evaluation sub-question

What is the ideal student-teacher ratio for such a programme? [Replicability/Sustainability]

Most teachers and principals interviewed said that working with a large number of students may not be as effective nor bring the best results, and that reducing the burden on the teacher would be highly desirable. Most of the participants in the sample considered that the ideal student/teacher ratio should be **less than the current 1:20 students**.

The 1:20 ratio was considered quite challenging for most teachers in terms of workload, particularly for those schools that lack facilities. However, some participants also flagged the issue that their schools would be unable to provide more than one teacher for the programme, at least in the current conditions, due to the lack of human and technical resources.

“

I think it should be less, sir, it would be good, looking after 20 students is tasking, sir, as we don’t know who is concentrating on the work and are interested. And the ratio should be 1:5 or 1:10, sir. As a greater number of students are present, we can’t circulate the phone to everyone and among them only a few will be interested in doing the work.”

(Focal teacher, F, at KGBV school - IDI9)

“

We cannot provide all. We don’t have enough manpower to promote one teacher for every ten students from UNICEF. Not even the possibility, we have to look at the academic side, we have to look at this programme.”

(Principal, M, at gov HS - IDI22)

2.6. PRINCIPAL ROLE

As per programme design, the principals’ main task was to enroll their school (and follow through the process), and to select the focal teacher. Principals also served as the main point of contact between schools and other levels of the programme implementation structure. DSOs reached out to principals to follow up on programme registration and course completion, and to encourage participation if necessary.

However, there were **substantial differences in their levels of involvement and support provided** to teachers and students. Some principals were reportedly very active in the programme, offering support in terms of infrastructure and allocating time or guiding students in the teacher’s absence. Meanwhile, during interviews, it became apparent that other principals had **limited knowledge of the programme and its details**.

A reason for principals’ limited knowledge and their varying levels of involvement could be attributed to the programme’s **lack of targeted messaging and requests for their active** participation.

“

The headmasters have no idea about this project, and they have no training sessions about this project. Until we pressurize them, they do not even react to the project. I can say only 10 per cent of headmasters have an idea about this project. We can see only little number of headmasters taking forward this project. Actually, the principal has to be more responsible for this project.”

(DSO 3)

“

At least 75 per cent of principals are active in SIC. Whenever the focal teacher and students come to the principals for any help, they would respond and do the needful. The remaining 25 per cent of the principals are somewhat slow in responding.”

(DSO 1)

3 Emerging Outcomes

As a process evaluation, the focus of this study is not to assess the outcomes of the intervention, as in observed changes and overall impact. However, through a comprehensive analysis and comparison of the accounts of study participants, and complemented by triangulation with quantitative data, it can identify and highlight significant emerging trends. Furthermore, given that there is no TOC for the programme, and that the design therefore lacks clarity on the expected longer-term results and impact, it is not possible to assess whether the nature of the activities implemented, and all the effects identified are aligned to achieve these. For instance, it is not clear whether the key focus of the intervention lies on upskilling students in transferable 21st century skills, promoting innovative and/or entrepreneurial mindsets, or utilizing hands-on adolescent development to enhance active citizenship, and if any of these goals takes precedence over others.

This section aims, first, to describe the reported effects that participating in the programme had on students, as expressed by testimonies from all stakeholders interviewed, as well as the reported effects of the programme on the overall school eco-system. Second, it looks at unintended and negative effects of the programme, as reported by participants. Lastly, it looks at the projects

submitted by students, their salient characteristics, common shortcomings, and what these say about the skills they acquired thanks to the programme.

3.1 REPORTED GAINS AND EFFECTS ON STUDENTS

Evaluation sub-question

How effective was the programme at developing and reinforcing adolescents' critical and creative thinking, problem-solving skills, empathy and collaboration skills, awareness of the SDGs, confidence and digital literacy? [Effectiveness]

The reported effects of the programme on rights-holders are separated into intellectual, social, emotional, and academic categories. However, it is important to note that all these categories are closely intertwined.

It is also important to consider that there was a strong selection bias⁹ towards rights-holders who already had certain characteristics or skills, and therefore it is not possible to establish to what extent the strength of these prior skills influenced their performance during the programme. The following

⁹ Selection bias relates to when participants or beneficiaries of a development intervention are not randomly selected but are chosen based on certain criteria or factors, which can undermine the possibility to draw conclusions about the programme's effectiveness. (Bamberger and White, 2008).

is based on the testimonies of stakeholders across the board, comparing the situations of students before and after.

3.1.1. Reported effects on rights-holders' knowledge and intellectual skills

Reported intellectual gains for student participants included improved problem solving, increased creative thinking and critical thinking, improved digital skills, and enhanced awareness and knowledge on social and environmental problems.

Improved creative thinking, critical thinking, and problem-solving skills were the most widely reported effects on participating students.

Across the board, all participants and key informants interviewed agreed that students' way of thinking and approaching problems had experienced a shift, from their ability to look at their surroundings more inquisitively and identify that a problem exists, to thinking 'outside the box'. Several students mentioned applying different problem-solving strategies and methods, such as the "I wish – I see" strategy, problem trees, brainstorming, stakeholder mapping and mind-mapping.

“

I like the problem finding methods. What is the problem and who is suffering with the problem? What is the solution for the problem?”

(Female student at private school - FGD16)

“

I gained so much knowledge. How to use waste material in a best way. I improved my thinking ability.”

(Female student at SW school - FGD4)

“

We improved our creative thinking. How the problems should be solved in our daily life. Innovative thinking developed.”

(Male student at private school - FGD13)

These skills were reflected in the way they approached problems in their communities and developed targeted projects (see Section 3.1), and in some changes in taking care of their environments. There is anecdotal evidence that some student groups solved problems in their contexts while participating in the programme, such as building barrages to avoid water leakages (Students at gov HS – FGD27), applying baking powder in cases of honeybee bites, in light of the lack of medical facilities close to their school (Focal teacher, F, at KGBV school – IDI9), or taking care of the school environment for example, by limiting the use of plastic (Focal teacher, M, at gov HS – IDI21). Details on how students applied their new skills to the school environment can be found under Section 3.1.4.

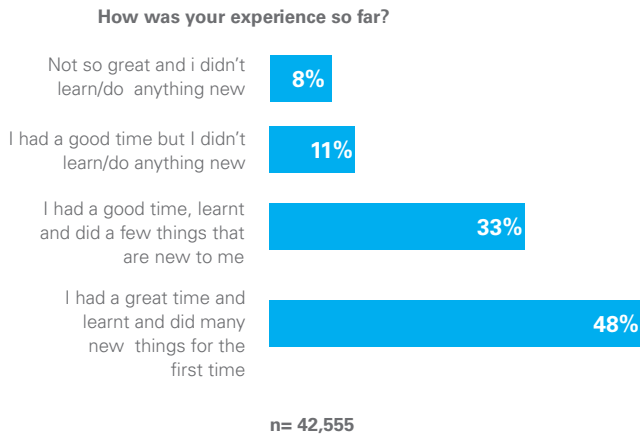
In terms of knowledge, the programme's content reportedly contributed to **raising students' awareness of social and environmental problems affecting our world**, as well as the specific ways in which these problems manifest and affect their own communities. No specific gender differences were reported in this learning. While only a few students were able to list all or some of the SDGs, their awareness and concern for the issues addressed by the SDGs were evident, as they reported having gained knowledge about issues such as poverty, climate change, pollution, deforestation, and garbage waste.

This finding aligns with the data gathered from the quantitative questionnaire implemented with participating students, where 81 per cent (n= 42,555) stated they had a good time and learned new things (see Figure 9)¹⁰.

Furthermore, many students reportedly **increased their digital literacy** thanks to their experience. This was not only because they had to navigate their way through the platform; students also mentioned that preparing PowerPoint presentations related to the SIC programme activities helped them to improve their digital skills. However, **this effect was not as widely reported as others**. This could be because some students already had prior experience using phones or laptops (as reported

¹⁰ There was no significant difference by gender or age, therefore the overall percentage is presented.

FIGURE 9 |
STUDENTS' PROGRAMME EXPERIENCE



Source: Endline student questionnaire

during the FGDs), including for school purposes, especially during COVID, but also due to students' limited ability to manage devices themselves during implementation, as these were so often shared.

3.1.2. Reported effects on rights-holders' social skills

Students perceived **improvements in their communication skills and teamwork abilities** through their participation in SIC. The teams reportedly provided a supportive environment, where the importance of sharing ideas, discussing them as a group, and helping one another was emphasized. Through their engagement in these discussions and actively collaborating to design their project ideas, some students reportedly learned to work effectively as a team, integrating different opinions and leveraging their individual strengths.

Teachers also noticed an increase in students' ability to express and share their own ideas, particularly those who were initially more reserved.

Now they are able to share their ideas themselves, the students used to be static and reserved but now they are opening up themselves and sharing their innovative ideas with their friends.

(Principal, M, at BC school - IDI6)

3.1.3. Reported effects on rights-holders' emotional development (confidence and self-efficacy)

Students perceived an increase in their skills and knowledge; they had the chance to form and express their own opinion and to openly discuss with their peers. Moreover, they were given the tools and the opportunity to identify problems, and to imagine themselves having the agency to solve them – and, by doing so, they put their newly acquired skills into practice in an effort to contribute to their communities. This journey reportedly helped to **boost students' confidence and sense of self-efficacy**. This growth in confidence was self-reported by some students but more widely observed by their teachers and principals. No specific gender differences were reported.

Students' confidence was further reinforced by the **positive feedback and acknowledgement received** by their peers, both SIC participants and other students, their teachers, and other adults in their circle. Some schools reported undertaking public actions within the school to recognize and congratulate SIC participants.

This increase in students' confidence, as well as in their communication skills, is supported by the results from the endline survey, showing that 82 per cent of student respondents (n= 42,555) said they had become better at talking to new people after engaging in the problem-solving journey (see Figure 10).

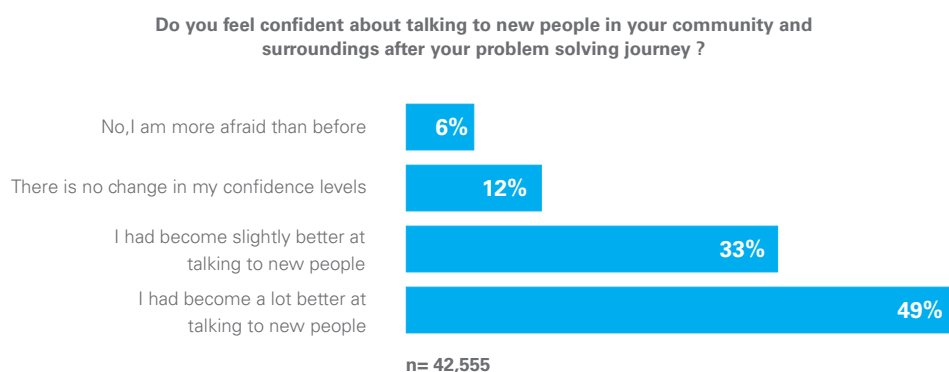
What I observed till now is that talents like identifying, understanding them, and analyzing them were improved. They improved their expressive character. The project is really helping them a lot and really boosting their confidence levels.

(Principal, M, at SW school - IDI12)

Children develop team spirit and self-confidence and awareness of problems in society and believe that they can solve them by themselves and bring good name to their parents and to the school.

(Principal, M, at gov UPS - IDI24)

FIGURE 10 | CHANGE IN STUDENTS' CONFIDENCE



Source: Endline student questionnaire



We gave certificates of appreciation to those who did the projects. Group leaders have been given status. By doing that, we will become those who anchored the children, and they will also be happy. Whoever did the activity, we will call them on the stage in the morning prayer and congratulate them.

(Principal, M, at gov HS - IDI22)

First and foremost, students' testimonies showed their **active sensitization of others** within their immediate spheres of influence about what they had learned. This included innovative thinking, problem solving, and caring for the environment. Students reported discussing these topics with family members, friends, and neighbors.

There was also evidence of some change in students' individual practices towards **taking responsibility for the environment**. Students mentioned reducing the use of plastic, collecting waste items to give them another use, saving water, etc. Students also described **mobilizing others** to apply more sustainable practices.

Furthermore, there was some evidence of students' **mobilization efforts to implement changes in their schools**, including applying different types of practices to take care of their environments (e.g., keeping school premises clean, keeping water use in check, reducing electricity use, thinking about waste management), as well as proactively suggesting solutions to problems affecting the school.

Despite these changes in individual practices and school mobilization efforts, students' possibilities for applying practical skills and developing more community engagement practices were limited by the fact that **most could not apply their knowledge and implement their projects** in real environments. Students expressed interest and motivation to carry out the projects in their schools and/or communities, but in most cases, this had not happened yet.

3.1.4. Community engagement and active citizenship

Evaluation sub-question

How effective was the programme at promoting active citizenship and community engagement? [Effectiveness]

Rights-holders increased their knowledge and awareness of a wide range of societal problems, especially with regard to: 1) taking **care of the environment**, and the effects of harmful practices, and 2) the **needs of vulnerable people** in society and how to support them. A boost to their **sense of empathy** towards social problems and eagerness to help others is also perceived, a change also observed by some teachers.

In addition to the reported acquisition of knowledge, shift in mindsets and attitudes, there was some **evidence of changes at the level of practices**.

“

R1: We won't think of it as homework, we took it as something we could do for society.
R2: We are interested in watching the videos and we want to learn more about society.
R3: I gained interest after watching the videos and it has information about the problems occurring in society and how to resolve this problem. ”

(Female student at private school - FGD16)

“

R1: We will explain to our family members, neighbors, siblings, and relatives also.
R2: We taught them about the things that we learned from the course. ”

(Students at SW school - FGD18)

“

I am reducing the use of plastic. If I purchase plastic things, then I recycle them into new things. I am creating awareness on paper bags. ”

(Female student at SW school - FGD18)

“

The sarpanch discussed with [the students] to learn about the problems in the village (...). The village sarpanch also gave appropriate suggestions to solve the problems and allotted his time. ”

(FT at gov HS - IDI21)

Most school interviewees did not mention taking students out in their communities for research and project preparation, as intended in the programme design, although a few mentioned that students had talked to community leaders and members.

Some residential schools reported that this type of approach was not possible due to their school system, and in some cases resorted to requesting that research on community issues be done during the school holidays. In one case, a teacher in a government school reported that he had faced some challenges taking students out for projects, as parents of girls did not want them to be outside doing this work (Focal Teacher, M, at gov HS – IDI22). Mostly, it seems that students discussed community problems and project ideas with their teachers, classmates, relatives, and neighbors, with some exceptions.

Thus, in terms of the effects on community engagement, the trend that emerged from the qualitative interviews and FGDs is that students' **'wider' community actions** remain mostly at an **aspirational level**. There were few examples of practical involvement at the social/community level, with some school stakeholders mentioning the lack of resources and time to implement the projects as a factor.

3.1.5. Reported effects on academic motivation and performance

Evaluation sub-question

To what extent has the programme contributed to students' academic performance and motivation? [Effectiveness]

Most of the school principals, teachers and DSOs interviewed were convinced that the skills acquired by the students through SIC, such as problem solving and creative thinking, had a strong **potential to contribute to their academic performance** in the future. However, this change has not been observed yet, nor concretely recounted, and it is possible that more time would be required for any effects to be measurable.

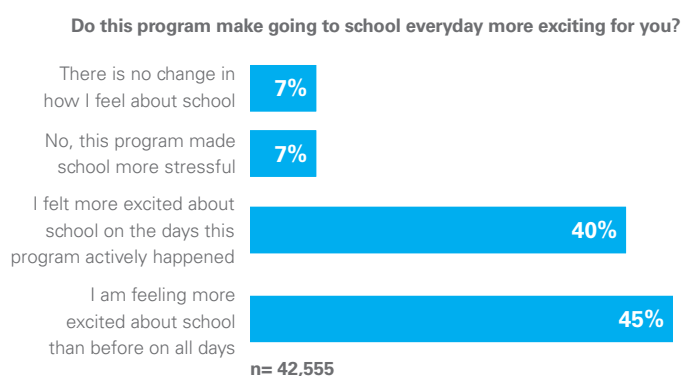
Only two teachers stated in their answers that students had improved their academic performance, while one considered that there was no change overall in students' skills. In most cases, however, statements regarding academics indicated more of an 'aspirational' than an actual result.

“

I think the knowledge they get will definitely be reflected in the classroom and out of the classroom because in SIC they teach listening skills, observation skills etc. which are automatically applied inside the classroom.”

(DSO 1)

FIGURE 11 | EXCITEMENT ABOUT SCHOOL



Source: Endline student questionnaire

The same goes for motivation at school. There was only limited anecdotal evidence in a few schools of students showing greater motivation towards their studies and of motivating others. However, the endline survey suggests that participating students were more motivated to go to school, as 85 per cent of respondents said they felt more excited about going to school on the days when the programme was happening than in general every day (see Figure 11). However, as noted in the limitations section, the wording of this question is positive rather than neutral and thus is likely to have biased responses.

3.2. REPORTED GAINS AND EFFECTS ON SCHOOL ECOSYSTEM

Evaluation sub-question

To what extent has the programme helped in building an entrepreneurial, innovative ecosystem in schools? [Effectiveness]

Programme **effects beyond the reported changes of participating students are not yet clearly evident and can only be sensed in an incipient state**. Early changes to the overall school ecosystem go in two directions. First, as described above, some students attending participating schools but not taking part in SIC themselves are nonetheless getting exposed to and engaged with some of the programme’s content via their friends and classmates. SIC participants from eight FGDs reported talking with their peers about the course content, discussing the issues covered by the course, as well as hearing their suggestions about the project idea being developed. Additionally, testimonies from students and teachers suggest that, at least in one school, some non-SIC students were also being exposed to some parts of the course content by their teacher (see Section 2.4.)

This **first-hand and second-hand exposure reportedly sparked other students’ interest in participating in the programme**. However, there was only anecdotal evidence of actual spill-over effects in other students, with one teacher mentioning that “changes happened in all students”.

The other area in which changes were beginning to become apparent is linked to **the teaching skills and methods learnt by focal teachers, that could potentially be transferred to their regular classes**. Most teachers interviewed reported having improved their teaching skills by learning how to “think differently”, increasing their digital skills and noting the benefits of using ICTs in the classroom. While some of these teachers acknowledged the transferability of these skills to their regular classes, evaluators found no substantial evidence that this had already happened. When and if it does happen, the shift in one teacher’s approach to classroom practices may have the potential to transform the methods used by other teachers at their school and to impact the overall school ecosystem. However, **it is too early to see this kind of change** and it will not depend on the teachers’ will alone, but also on the curriculum and school guidelines on teaching methodologies. Moreover, the fact that only one teacher per school participates in the SIC hinders the potential for the programme to have such spill-over effects.



It is not only confined to 20 students, but the changes happened in all the students. The students who are hiding themselves are coming out after participating in this project. The other students are also showing their interest after seeing the 20 students.

(Focal teacher, M, at private school – IDI15)

3.3. REPORTED NEGATIVE UNINTENDED EFFECTS

In terms of negative unintended effects, firstly evaluators noted – as mentioned in previous sections – the workload burden and time pressure that the programme places on DoE staff, particularly teachers. Although this burden was realized by programme implementation, the evaluation findings suggest that the workload pressure may have been greater than expected, and this is why even motivated and committed teachers referred to this issue (and requested further support).

This issue of burden could have a negative impact not only on teachers' ability to perform their role within SIC but can also translate into **unintended effects on rights-holders who did not participate in SIC**. At least three teachers from our sample mentioned that this time/workload pressure sometimes affected their ability to care for their regular classes in detriment of the needs of other students who were not on the SIC programme.

Additionally, as mentioned in 2.1, a few teachers expressed concern or unease due to not being able to select all interested students into the programme, which led to some children's disappointment. However, as non-participants were not interviewed, this report cannot establish the extent to which these issues affected other students.

While time/workload pressure proved a salient topic for teachers, **students only mentioned this added pressure in a few cases**. In at least two schools, evidence was found of **students skipping or being late to other classes because of SIC work**, which could be detrimental to their academic

performance. Additionally, students missing or arriving late to other classes could potentially create discomfort among non-SIC teachers and have a negative effect on their perception of the programme.

Another unintended (negative) effect is connected to **children's unsupervised use of digital devices** when the teacher had to attend to other responsibilities, or when they were at home using their parents' devices. Three focal teachers expressed concern that students were spending too much time on the phones because of SIC activities. Two of the teachers also expressed worries about the actual use that the students were making of their phone time, with the excuse of working on SIC, and their (teachers') inability to control this activity.



If one more person was there, it would be helpful. I will have to leave my classes and help them. Because the classes are main. The other students are being affected because of this. Because of these 20 children, other students are losing.

(Focal teacher, F, at BC school - IDI5)



This generation knows how to use applications, so we can't leave them alone with the phone. It would be better if they were given mobiles in the guidance of teachers or parents.

(Focal teacher, M, at gov HS - IDI27)



At day schools, where students log in UNISOLVE at home from their parents' phone, we can't say exactly if they are working on this SIC or [...] doing some other thing in the mobile phone and cover-up as if they are doing SIC work when their parents come to see.

(Focal teacher, F, at KGBV school – IDI9)

3.4. STUDENTS' PROJECTS

Evaluation sub-question

In which ways were the acquired skills and knowledge reflected in the design of the projects submitted by students? [Effectiveness]

The themes on which students developed projects were related to the SDGs they learned about through the programme, and the societal problems that they identified around them. Most projects recounted during data collection were **related to SDGs** in climate change action and the protection of ecosystems, responsible production and consumption, poverty, and reducing inequalities, including gender equality, decent work, and economic growth. Within these broad themes, students' projects ideas concerned **their communities**. While only one team mentioned having implemented "community mapping" as a strategy to identify problems, students generally suggested that they got ideas from situations they saw in their everyday lives.

Furthermore, students considered that their projects would be useful to the people in their communities. Utility was a clear intention behind their ideas and designs.

In terms of **process**, evidence from the FGDs suggests that student projects were built applying the ways of thinking and problem-solving that they had learned in the course, as well as through teamwork. Students mentioned various techniques and processes they went through while coming up with the project ideas. These included observing their surroundings, listing problems, applying specific techniques (i.e., "I see, I wish"; 'mind mapping', etc.), and discussing their ideas within their teams and with their teacher.

All teams reported that work was done collaboratively in teams, discussing and developing their ideas, and deciding together on which ones to work. Therefore, teamwork was not just a 'buzzword' used but a practical ability that students put into practice.

“

Yes sir, one day I saw a beggar eating food outside a temple and some content from this plate had fallen down, even he ate that part of his food taking it from the ground. At that time, I thought (...) how many people are suffering for food? Can we do anything for them and help those kinds of people who are suffering? Therefore, I discussed with my group and madam got ideas and we started our project and submitted. ”

(Male student at SW school - FGD20)

“

*R: As it is related to the bore well concept, it is attached to our daily life.
R: We can save children's lives by closing the open bore well. ”*

(Students at gov HS - FGD27)

“

I learned about I wish I see technique. With the help of this technique, I have observed the problems around us and designed my project on Water Purification to purify the wastewater into useful water. ”

(Female student at KGBV school - FGD7)

“

We work together in coordination and learn things from others. ”

(Female students at SW school - FGD18)

“

We succeeded in completing the project with our team's hard work. ”

(Female students at KGBV school - FGD29)

Evaluation sub-question

What are the salient characteristics of projects submitted by students and in which ways do they fit their respective contexts? [Replicability/Sustainability]

Students' projects were adapted to their living contexts, as they were developed based on what they observed and experienced in their communities, with the goal of solving everyday problems. **Most of the projects** described in the schools evaluators visited were **related to technological innovation**, aimed at developing new or improved technologies, or products to address people's needs. Although implementers mentioned this was not an 'imprint' provided by the programme, it appears that students' ideas for community improvement were somewhat constrained to align with a specific 'model' that could be **physically prototyped and produced**. Thus, many projects were linked to infrastructure designs or product development, while almost no projects were related to other potential areas that would offer solutions not necessarily linked to the design of a (marketable) product, such as social innovation projects. While this characteristic of students' projects was not identified or seen as an issue by most stakeholders, one principal did declare her concern for this approach.

Project ideas included a wide variety of topic areas, often **related to environmental protection, agriculture, safety and security, health, and educational infrastructure**.



Why do we always want some technical things, some devices for projects during school innovative projects? We are letting students believe that a project is something where you always have a physical device or result that you can see, but scientific approach is also important.

(Principal, F, at private school - ID114)

Under the environment theme, students reported the development of several projects related to water usage and conservation, waste reuse and separation and recycling, and taking action against climate change effects.

Another area of interest for students was agriculture and how to introduce improvements that would facilitate work in the sector. One jury member confirmed that many projects received were in agriculture, as this was the environment that many students were exposed to. Students thought up projects about millet processing units, solutions for crop protection and detecting soil pollution or self-irrigation systems.

There were also many projects related to safety and security, both for the household or community contexts, as well as for the work environment. These projects included: alarms to detect gas leaking at home, smoke or fire detectors, and metal detectors to avoid theft. There were also several ideas to improve working conditions, such as anti-drowsiness alarms for drivers, lift-chair systems for construction sites, and better borewells. One school presented a project related to women's safety and protection, a device with a single button, which women can carry and press for help when they are in trouble.

A few projects were related to health and hygiene, including the design of more eco-friendly sanitary pads, a face mask/automatic temperature detector, gloves made from plastic bottles, and a system to detect fewer quality foods.

Some digital projects were mentioned as well, such as an app to inform people about government schemes, a food donation app, a website for sharing knowledge on plastic use reduction and recycling. There were also some ideas for technological projects related to everyday problems, such as solar pads for charging mobiles or automatically opening umbrellas.

Lastly, a few low-tech projects related to educational infrastructure were mentioned, such as book tabs, and portable blackboard stands.

Teachers and principals mentioned that **some of the students' ideas were very smart and innovative, while others were not useful or applicable**. However, they all saw value in students' connecting with real-world problems and having the opportunity to use their skills and propose solutions. They all agreed that participating in the course had helped to improve their mindsets. This said, some teachers observed that **not being able to work on their projects in a practical way may have limited students' learning**. This, and other shortcomings reported about project work are investigated in the next section.

Evaluation sub-question

*What are the most common shortcomings of projects submitted by students?
[Replicability/Sustainability]*

The main shortcomings of student projects identified by stakeholders were: **incomplete** ideas (submission of unfinished projects), **limited innovation or novelty** of ideas (including repetition or copying of ideas) and **limited applicability** or feasibility.

Incomplete project ideas are filtered in the first round of assessments by the SIC jury members. The types of ideas that were discarded, according to jury members' interviews, were those which were **incomplete or inaccurate**, indicating that perhaps the team did not understand the assignment.

Jury members mentioned that this happened when descriptions of the project idea were insufficient – for example, when teams explained an intention

to implement something but without describing the problem or the solution proposed. Some submitted ideas that the jury considered 'irrelevant' or 'incorrect'.

Another shortcoming commonly mentioned by stakeholders familiar with students' ideas was the fact that many were **not innovative**, and they noted frequent **repetition**, something evaluators also perceived when comparing the ideas mentioned across FGDs and interviews. One principal mentioned, for instance, that their school's idea of a water lift system had been done as well by other schools, and the other school's project was selected, while theirs was not. Some stakeholders also mentioned that some ideas had been copied from online materials such as Wikipedia or YouTube videos.

Another issue described was that ideas may **not be workable** if implemented and hinted at the **lack of specialized knowledge** and possibilities to consult with others, who could offer expertise on idea feasibility and on the specific topics at hand.

Another issue highlighted by one jury member was that, sometimes, thinking of problems and solutions in terms of the SDGs was difficult for students, as this would mean visualizing problems that were much higher scale than their situations and knowledge. This layer of complexity sometimes distanced the students from their contexts and potential solutions.

Furthermore, DSOs, principals, and teachers reported challenges related to **a lack of adequate resources** to develop the projects, such as limited access to materials needed for project development, and limited time and connectivity for researching and submitting project ideas. One principal and one district coordinator mentioned that the lack (or limited capacity) of science labs at schools also created limitations for students to submit projects.

“

First level of the task we have given... to differentiate the 'scrap' ideas, because we have received some scrap ideas, also might be because the teachers or students maybe didn't understand the... they didn't get any idea, maybe due to that they have submitted some 'scrap' ideas.”

(Jury member 4)

“

Sir they have given ideas to problems but don't know whether they succeed at ground level or in implementation sir they were imaginary ideas if we want to implement them like a working model. We don't know whom to consult.”

(Focal teacher, F, at SW school – ID111)

“

No sir, as they didn't implement and also even didn't start doing the work, they only submitted their ideas.”

(Focal teacher, F, at SW school – IDI11)

It is also worth noting that, in some of the schools visited in Yadadri and Hyderabad districts, students had submitted a project but **had not worked on the prototype or even on the design itself**. This was at least partly due to the lack of materials and technical knowledge, but also because of the time and infrastructural limitations already described in Sections 2.4. and 2.5.

Evaluation sub-question

What can we learn from shortlisted projects (best practices)? [Replicability/Sustainability]

For ideas to be shortlisted, they went through three rounds of assessment; one first round where 'scrap' ideas were discarded, a second round where ideas were ranked according to five criteria (novelty, scalability, sustainability, reliability, and feasibility), and shortlisted accordingly; and a third round in which the best ideas are selected, and winners were eligible to attend a bootcamp to further develop their projects and build prototypes.

Selected ideas were considered based on the innovative nature and their usefulness for the context, but evaluators noted an **emphasis on the 'entrepreneurship' and 'marketable' potential** of the final ideas selected.

Some ideas shortlisted in the 'grand finale' mentioned by interviewees included: a hydraulic wheelchair, a device with a sensor to automatically fill water buckets, an automatic toilet cleaner that saves water, a sensor for gas leakage, a three-wheeled cart, a device to use kinetic energy from the road, and a saline bottle with a sensor for hospital patients, which signals to nurses when it is empty. There were also some low-tech examples, such as a water heater with a copper rod, a light bulb changer, a pergola with magnetic rods to cover

crop fields when it rains, and an organic chalk. However, most of the selected ideas discussed by interviewees included relatively complex technological components (i.e., automation). Stakeholders interviewed (TSIC, jury members) also agreed that the ideas submitted had improved, compared to the first and second cycles of the programme.

Finally, some stakeholders highlighted the importance of the 'journey rather than the destination', stating that students who take part in the programme develop their skills and thinking mindsets – even if the ideas they submit are not of great quality, or they do not get to the final stage of implementing their ideas.

“

Great ideas from the students, even from the first as well as the second edition. And we have held the top teams where we... try to bring their idea into the market. We have handheld them. We have helped them enhance their prototypes. And that way we even try to bring them into the market.”

(Implementing Partner 1)

“

Exactly 100 per cent [the projects] are good. Keeping aside how much they are going to implement, students thinking improved is enough as they started to think like this.”

(DSO 4)

“

All such things can be said to be the benefits of this SIC and many children will get in the habit of waiting for thinking, group discussion will be possible, challenging mind set will be practiced, all such things are innovative.”

(DSO 5)

4 Conditions, Differential Effects & Adaptability

4.1. CONDITIONS NEEDED FOR IMPLEMENTATION

Evaluation sub-question

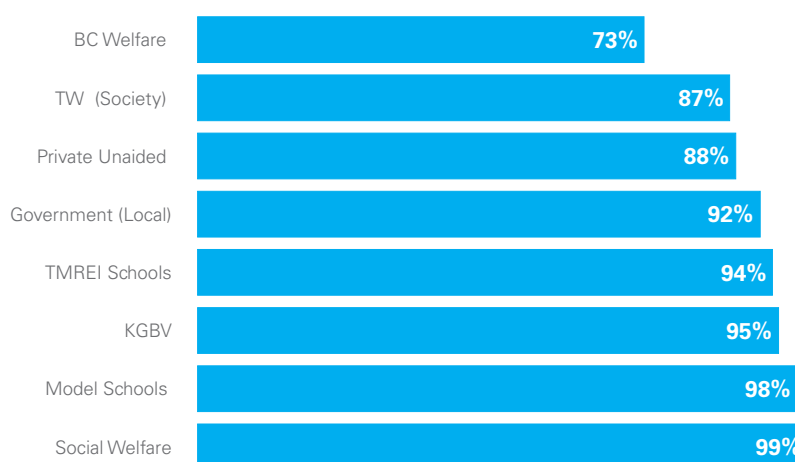
What are the specific school conditions needed to ensure successful implementation of the programme? [Replicability/Sustainability]

Defining ‘success’ (of programme implementation) was the first challenge encountered in assessing the specific conditions and infrastructure needed to ensure it. Additionally, the data available only allowed evaluators] to measure what they believe to be the programme’s expected outputs (students’ course completion and the teams’ submission of a project idea (Figure 2)¹¹. The programme’s outcomes reviewed in Section 2.6 of this report were only emerging and, as such, no significant differences were found among school types that could help ascertain which specific material conditions contributed to facilitating or hindering the programme’s success.

This said, despite the challenges reported by programme participants and key informants, **75 per cent of registered school teams managed to finish the course and submit a project idea**, according to monitoring data shared by UNICEF ICO. Even more noteworthy is that schools with the most limited resources (namely government and KGBV schools) exhibited a submission rate of project ideas that was higher than or comparable to schools with better funding (see Figure 12). This points to the existence of **motivated and engaged teachers, successful coping mechanisms**, and the **effects of DoE oversight**, in the case of government schools.

The relatively high rate of idea submission is also testimony of the **capacity of the programme to adapt its design to the schools’ limited material circumstances**. Indeed, most of the schools visited (10/15) were able to implement the programme and submit ideas with very scarce equipment (having one phone per group, or even one phone for several groups) and an unreliable internet connection.

FIGURE 12 | PERCENTAGE OF TEAMS WHO SUBMITTED IDEAS



Source: Programme generated data

¹¹ The programme did not provide a theory of change (TOC) or documentation stating the specific expected outputs and outcomes, so these are based on the TOC created for the purpose of this evaluation and introduced in the Programme Overview.

Thus, if success of programme implementation is measured based on these outputs (percentage of teams who submit a project idea), it can be argued that, in terms of infrastructure, **a single phone (or computer/tablet) and an internet connection of some kind appeared to be sufficient to ensure a 'successful' implementation.** However, this statement would only be **partially accurate**, as it overlooks the numerous challenges that students and teachers faced during implementation, and the significant issues detected in terms of differences in access and participation, all of which highlight risks to programme sustainability and equity that could potentially translate into disparities in outcomes. This is discussed in the following section.

4.2. POTENTIAL DIFFERENTIAL EFFECTS

Evaluation sub-question

What types of conditions (infrastructural, educational, socio-cultural, etc.) have contributed to producing differential effects in programme take-up and effectiveness? [Effectiveness]

First, as described in Section 1.1 and 2.4, the impact that the scarcity of resources had on rights-holders' experience with SIC was **particularly detrimental for those with different capabilities** who need more time, focus and support to properly comprehend the course material and complete its components. This points to challenges in their rights to accessibility and adaptability of this educational programme.

Students who had to go through the course on a shared mobile phone in groups of five or more, and with the videos frequently interrupted by buffering issues caused by a weak internet signal, had fewer opportunities to fully grasp the concepts delivered. While there were students who were able to understand the content regardless of these obstacles, **this difference in access was particularly detrimental to students who typically need more time to fully grasp concepts.** As a focal teacher said:



Students can understand only if they can get the content exactly. If the student is active, talented, someone who is very good at studies, they can understand after watching the videos but when compared with low performance students, they won't grasp things like merit students and they might face a few difficulties.

(Focal teacher, F, at KGBV school - IDI9)

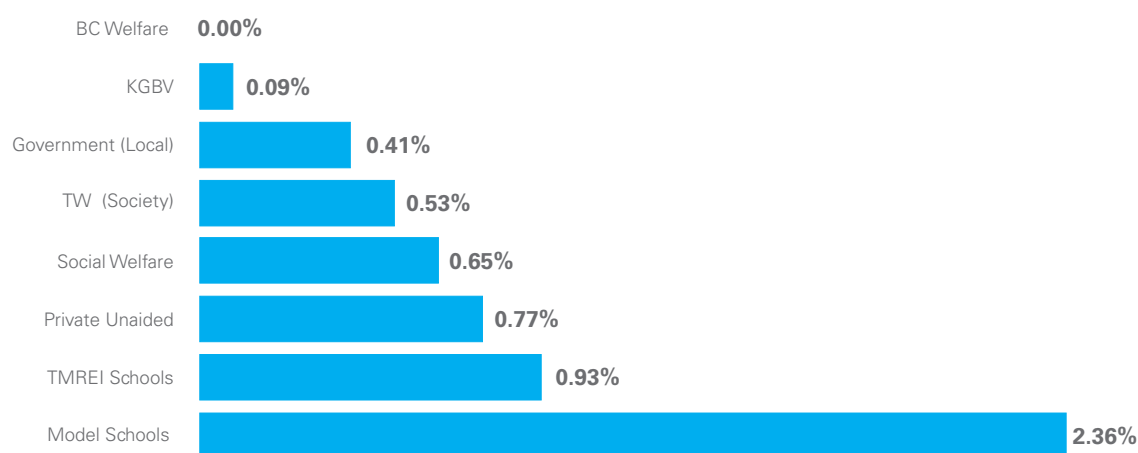
Other variables contributing to potential differences in access and participation included the type of family background and realities at home – particularly for students at daytime schools who, as seen in Section 2.4, were in some instances expected to go through the course components from home, where their access to devices was not always guaranteed, and where students faced additional barriers according to their gender and family context.

The potential for this **equity gap to lead to differential effects of the programme is clear**, but the evaluators lack the data to rigorously assess the extent of this impact.

The available quantitative data that could best serve to infer differential outcomes by school type is the quality of the ideas submitted by students as measured by the evaluation jury. As described in Section 3.4, ideas went through the SIC evaluation process led by a team of expert jurors. From this process, 70 ideas with a higher overall score were shortlisted. **The proportion of shortlisted ideas by type of school disproportionately favored modal, TMREIS, private and social welfare schools** (see Figure 13).

The difference in rates between schools suggests that students from some schools (Modal, TMREI, private and SW schools) benefited more from SIC than those at other schools (KGBV, BC, and government schools), and/or that they were better positioned at the outset of SIC to produce outputs of higher quality.

FIGURE 13 | PERCENTAGE OF IDEAS SUBMITTED THAT WERE SHORTLISTED



Source: Programme generated data

Regarding the first hypothesis, the disproportionate number of shortlisted ideas from better funded schools points to the **quantity and quality of material resources as a significant factor enhancing rights-holders' opportunity to benefit** from the programme and to leverage it to design high-quality project ideas.

The second hypothesis, however, could also play a role in this disproportion, since the admission criteria to modal, TMREIS and SW schools include (at least in most cases) an entrance test measuring prospective students' abilities – thus favoring those who were already academically proficient and had higher cognitive abilities. These **students may have been better positioned at the outset of SIC to benefit more from it** and to produce project ideas of high quality.

It is important to acknowledge that these hypotheses are **not mutually exclusive** and could work in combination to influence SIC differential outcomes for rights-holders. However, further investigation and analysis would be required to determine the precise extent to which these factors influence the disparity in shortlisted ideas between different school types.

4.3. PROGRAMME ADAPTABILITY

Evaluation sub-question

To what extent and in what ways was the programme able to adjust to the diversity of material and sociocultural realities present in the different types of school settings? [Relevance]

First, implementers **made some adaptations to the programme implementation structure** according to the larger context (state) in which it would take place, in terms of team composition and partnership, including the type of government actors involved in each case (Telangana, Tamil Nadu, Karnataka).

Second, implementers factored into the design the reality that the programme's target schools largely lacked the appropriate digital infrastructure. **The programme design of the platform as both web- and mobile- responsive, with reportedly low bandwidth, was a key adaptation to the context** for ensuring programme take-up. Further, as concluded earlier, the platform's course **content was successfully tailored so that it would be relevant, relatable, and understandable for students**, in various ways.

However, beyond the technological formats and the contents, **no other adaptation measures were taken to address the diversity of school situations and linked implementation challenges** – including infrastructure and connectivity gaps, school capabilities and teacher burden, and the limitations to participation and engagement that these produced.

Further, the challenges encountered at the school level meant that **the two-month time window was considered too short** by a significant number of students and school staff.

As discussed in Section 4, the programme's oversight in considering access as a key programmatic issue, relying on the assumption that schools would 'sort it out', **resulted in differential effects arising from a divide in students' access, use, and overall experience** with the platform

based on their school type, capabilities or family circumstances. The programme's adjustment to a mobile-friendly platform so that schools could access even in largely precarious infrastructural environments was thus **not enough to guarantee enough and equal access, utilization, and leverage of the programme components by all students from all types of schools.**

For the programme's outcomes, or 'successful implementation', to be equitable for all kinds of students, the existing provisions are evidently insufficient. Measures should be established to guarantee all students have equal opportunities to access and utilize the platform, regardless of their circumstances, and that students can engage with the course content at their own pace, individually, or in smaller groups, and ideally from the school premises.

5 Stakeholder Coordination

This section analyses how the specific stakeholder set-up came into play in the process of programme delivery. The purpose is not to develop a comprehensive illustration of the complex array of stakeholder arrangements but to underline the key emerging trends relevant to understanding and assessing the process of delivering outputs and advancing towards outcomes.

5.1. COORDINATION MECHANISMS

Evaluation sub-question

What coordination mechanisms are in place among stakeholders?

What challenges and shortcomings have stakeholders faced to coordinate their efforts? [Coherence]

Programme implementers described a preference for an 'agile' approach to programme management and coordination, where problems are resolved among the active partners as much as possible and only escalated when needed. Several **regular meetings** were reportedly held for stakeholder coordination at various levels for fluent communication, discussion and resolving of emerging issues. However, as evaluators did not receive programme documentation explaining the complex delivery structure, stakeholder coordination cannot be systematically assessed. This section includes only the major mechanisms reported by stakeholder interviews, and the communication and implementation gaps that could be established through interview triangulation.

UNICEF reported having regular meetings with programme partners TSIC and Inqui-Lab, as well as with DoE representatives. Meetings with Inqui-Lab focused on looking at the design and content of the platform, how to improve the user experience, incorporating feedback and solving issues. While UNICEF implementers usually communicated with the DoE via TSIC, they also reported having monthly or fortnightly meetings with DSOs that were attended by higher DoE representatives (i.e., commissioner and secretary of education),

as well as by TSIC. These meetings with DoE representatives were reportedly held depending on needs, to understand emerging requirements and challenges and report programme status. UNICEF implementers considered these sessions important not just as a monitoring mechanism but also to ensure the buy-in and support of these officials.

In addition, UNICEF implementers reported having regular meetings with their implementing partner to coordinate and oversee programme delivery, including both daily and weekly calls (i.e., weekly calls in case decisions needed to be made; check-in calls in the morning and evening). UNICEF reported being in touch daily with every state project coordinator, while the coordinator in turn would have a meeting with their implementation team.

One **key coordination mechanism in programme delivery was the creation of WhatsApp groups** that included teachers, DSOs, district coordinators, and district volunteers. This direct and immediate communication channel was not initially established but was adaptively developed during implementation as an initiative from district coordinators to enhance communication and coordination. The choice of WhatsApp as the preferred channel was driven by its accessibility to all teachers, especially those less accustomed to traditional channels like email. The WhatsApp groups received positive feedback and were well-received by all stakeholders involved, as they proved crucial to resolving issues at the school level daily, smoothing implementation.



We use it to have WhatsApp groups with the teachers who are interacting with the students, the direct teachers who are interacting with the students. We have the WhatsApp group with the teachers, and we are into that group immediately. If they post, if they post any query, we use it to our team. Use it to be available all the time, like 24 over seven into it and we use it to solve the issues. ”

(Principal, M, at gov HS - IDI22)

Some key challenges highlighted by stakeholders related to **timing for planning and coordination**, including time pressures, as well as some **communication gaps** between implementing actors.

Regarding timing, stakeholders mentioned that launching the programme towards the end of the year instead of the summer months was detrimental to performance, as it put time pressures on the whole school chain (students, teachers, and principals) as well as on district coordinators and DSOs.

Some district coordinators also mentioned challenges linked to having to solve issues 'last minute' for programme delivery and pointed out the importance of planning to avoid time pressures. While the immediacy of the WhatsApp groups helped to navigate the need for rapid response to challenges, it seems that providing live support was at times overwhelming. One district coordinator mentioned that they were 'on call' by teachers 24/7. The role was reportedly demanding in nature, as they were the key contact point for many arising implementation issues that needed to be resolved quickly for smooth implementation.

Another challenge related to **communication gaps** with the technology team. District coordinators mentioned a lack of response due to the tech team being overly busy (working across districts, states and countries), and a lack of precise communication about changes to the platform's deployment, which they found out sometimes through their work in the field instead.



It is better if the project management conducts this project before the month of December. Because the teachers were free then. This project is in the month of December, so we are facing some problems related to assigning a teacher. Teachers were busy with the outgoing batches and with the board exams of 10th class students. If we start this project in the month of August, we can succeed in this project as we have much time to deal with and engage with the students.

(DSO 3)

These issues point to challenges in documentation and progress reporting. However, as evaluators did not receive project documentation on the monitoring systems applied, and these aspects could only be partially reconstructed through KIIs, the evaluation does not have enough evidence to assess the overall utility of the project's monitoring and reporting approach.

5.2. ROLES, COMPLEMENTARITY, AND SYNERGIES

Evaluation sub-question

What is the level of awareness among stakeholders about each other's role within the programme?

What synergies exist between stakeholders involved in programme implementation?

How do their roles complement each other? [Coherence]

Evaluators found that **stakeholders involved were aware of each other's roles within the programme**, and overall considered these roles as **complementary**. The evaluation team did not find evidence of uncertainty or lack of clarity from teachers, principals, DSOs, district coordinators, or implementers (UNICEF, TSIC, Inqui-Lab, DoE) about the roles they were expected to perform. Overall, 'core' partners' roles seemed to complement each other for programme implementation and to draw on different yet relevant sets of expertise, networks and strengths. **The articulation of roles and mutual collaborations through this programme was reportedly successfully established**, despite some challenges related to institutions' differing priorities and mandates.

However, the multi-institutional and multi-actor **structure is complex**, requiring extensive coordination efforts at different levels, as well as various mechanisms for oversight. The structure is also **not easily visualized** by external actors, and the evaluators faced some difficulties in making sense of the set-up, particularly without access to programme documentation at the onset of the evaluation. Further, the implementation structure is not sufficiently described in programme documentation, and in the case of some roles (i.e.,

DSO and district coordinators), it does not provide an accurate, updated picture of the associated tasks and responsibilities. For these reasons, stakeholder interviews were used to reconstruct the set-up, and some key emerging issues are outlined based on these discussions.

The complexity of the implementation structure has potential implications for information sharing and monitoring. Different offices and staff oversee different parts of the programme implementation. For instance, while the implementation team is monitored by the UNICEF Hyderabad office (AFO), the technology is monitored by UVA and ICO. On-the-ground programme delivery is run by a third-party, with a complex cascading structure. An implementation manager appears to be the key responsibility figure of the implementing partner and the main point of contact for technology, content and training-related issues. However, the implementation manager was reportedly not directly engaged in programme implementation, although they were in periodic touch with the state-level implementation managers, with whom UNICEF AFO has regular meetings. From the evaluators' understanding, the state implementation managers/coordinators manage a team of five district coordinators, who in turn have a team of six to seven volunteers.

The cascading approach may offer limited visibility for implementers in some aspects of delivery, uptake, and results, for example, regarding what happens at the school level. There are reportedly some mechanisms in place, such as UNICEF's regular meetings with some implementing partner actors, as well as Inqui-Lab's feedback mechanisms with students and teachers on the platform. Nevertheless, implementers did not seem to be aware of whether programme directives were being followed for teacher and student selection, whether there was different uptake, understanding and engagement by different groups of students, or what was the level of impact of challenges such as access and teacher workload. Relatedly, there was evidence of some **information gaps** in the school implementation data, including differences between the monitoring data on course completion and the number of project submissions compared to the situation found at schools during fieldwork.

Furthermore, because part of the programme delivery is done through a third-party instead of the DoE structures, **DSOs interviewed reported not having full oversight of the process** (despite a more 'active' role described in programme documentation). Although DSOs were identified as the key 'nodal' officers for programme implementation, and an important responsibility had been attached to them in ensuring school registration and course completion by schools, the reality on the ground was that most of the implementation tasks were carried out by district coordinators instead. DSOs reported that they could not access some instruments for monitoring SIC progress, such as the programme's dashboard, unlike in other programmes such as INSPIRE.

District coordinators are not part of the DoE, but function as third-party 'implementing partners'. **District coordinators are key implementation figures**, having primary responsibility for supporting teachers and addressing any technical issues or information gaps in their journey, and for monitoring the progress of groups at the district level. While DSOs remain the main contact point between the school and the DoE and have a key responsibility for mobilizing school stakeholders, it is the district coordinators who take charge of addressing implementation issues, unless further (specific) support by the DSO is required. District coordinators reportedly communicate progress to DSOs on a regular basis and keep tabs on the timelines for work to be completed, but they cannot 'influence' the process (i.e., push for course completion) as they are not DoE authoritative figures.

The existence of the district coordinators is understandable in a context where SIC implementation would require too much time and dedication from DSOs, especially when it is not formally part of their role attributions due to being outside the curriculum. It seems that the presence of the district coordinators greatly relieved the burden (and pressure) on the DSOs. Some DSOs mentioned receiving fewer calls from teachers since the district coordinators were introduced. DSOs had already expressed a 'burden' due to their participation, and generally expected some type of compensation for their involvement. Nevertheless, it is also clear that this structure affected the DSOs' sense of ownership and level



For example, INSPIRE's dashboard is under my control but SIC dashboard is not accessible to me, they don't give me. All the dashboards are also controlled by SIC, if they need anything, they give me the information and send the information to the schools through me. No sir, I have everything, but I have to say something: my role is very little in this SIC project. All the maximum work is also taken care of by the SIC District Team Coordinators.

(DSO 5)

of involvement in implementation. The DSOs perceived limited visibility of how things were run, and the lack the recognition of their work seemed to raise some 'red' flags for programme buy-in as well as for effective DoE monitoring.

Regarding programme monitoring, one DSO mentioned that, because SIC is not a DoE programme, there was **little pressure and a lack of proactive follow-up on the outputs of the programme** – unlike for other science-related programmes, such as INSPIRE. One DSO stated that principals were not really involved in this capacity, and that there was little monitoring from project management and from higher officials on the programme's results (i.e., from DEOs).

There were also some issues raised regarding systemic arrangements that affected implementation. One was the reportedly **significant difference in how each district functioned and prioritized the work**, which increased the level of difficulty for programme management. There were reportedly many individual variations in the levels of involvement and oversight by the district staff. Moreover, in the case of private schools, there was a **lack of a contact point** that could liaise between



Because they [DEOs] too do not have any idea about it. They were not focusing on it and not specifying it as the major thing or work that needed to be done.

(DSO 3)

the schools and the programme, given that private schools do not need to follow DSO directives. For this reason, implementers had difficulties in targeting private schools.

5.3. PROGRAMME COHERENCE

Evaluation sub-question

What synergies exist with other relevant programmes and initiatives targeting adolescents in Telangana? How do they complement each other? [Coherence]

The SIC programme was perceived as valuable and with unique features by most of the stakeholders interviewed (TSIC, most DSOs, district coordinators/jury members, teachers and principals). It was especially valued because it allows students to increase their knowledge and develop their skills, while other programmes in science and innovation only offer the possibility to select, showcase and award 'innovative' work (i.e., science fairs, INSPIRE). The longer-term engagement that the programme adopted, instead of being a one-off activity, was also mentioned by some actors.

Although testimonies clearly evidence the programme's relevance and added value for stakeholders, evaluators found **limited evidence of the programme's synergies with the Telangana educational context**. The evaluation is restricted in its possibilities to assess the programme's overall coherence, due to the unavailability of some government stakeholders for interviews; however, stakeholders interviewed (particularly, teachers, principals, and DSOs) reported that **SIC coexists – and often competes with – other educational initiatives in Telangana** in terms of students' and teachers' schedules, as well as in terms of DoE priorities and oversight.

One of the challenges is a systemic constraint – SIC operates in an environment where many science and innovation-related programmes are already currently implemented, including INSPIRE, Jawahar Navodaya Science and Math Exhibitions, CSI Innovation Awards, and IGNITE, among others. Many stakeholders described an educational environment where many initiatives are

“

You look at INSPIRE or if you look at the National Science Congress, the other programmes that they have, they do not have this skilling piece embedded. It's like they wrote a competition. And then students apply, students who already have innovative ideas. (...) whereas we are equipping students with skills (...) So that way we are definitely different.”

(Implementing partner 1)

“

Definitely, the School Innovation Challenge is very special because no other challenge in Telangana or India is nurturing on innovation and entrepreneurship from the scratch. Yeah. All the other programmes which are happening in Telangana and other states, they don't actually train them.”

(Jury member 1)

“

So now with the limited bandwidth that the teacher has, there are around five to six programmes of this sort for different objectives that the teacher has a window or is expected to participate in. Okay, so there is the School Innovation Challenge or UNISOLVE, there is Inspire, there is CSI Innovation Awards and there is Ignite, and there are some local science fairs and all which are not exactly the same, but demand similar engagement from the teachers. (...) And this is across all the states in India.”

(Implementing partner 3)

in place at the same time, without coordinating and converging their objectives. As such, the finite time and resources of participating actors necessarily needs to be distributed among all these different initiatives.

The multiplicity of initiatives is complex as it happens at different levels, with programmes promoted by national bodies of innovation (i.e., National Innovation Foundation, Atal Innovation Mission),

programmes led by the state, and programmes run by the districts. Further, one implementer noted that there were some **systemic disconnections between state and district levels**, which can translate into the district/s adopting several programmes without the state being informed or sanctioning participation, with **this multiplicity contributing to teacher burnout**.

Implementers were aware that mainstreaming elements together into one or two programmes would ease the burden on the government system and the teachers, and this is one of their reported lines of advocacy with government bodies, not only in Telangana but at national level. In this context of multiple and somewhat overlapping initiatives, UNICEF has reportedly directed its advocacy efforts to promote the potential of youth in India, focusing on adolescents' empowerment and development, via upskilling.

However, the extent to which SIC has promoted a 'different' concept of innovation than the one upheld by other programmes remains slightly unclear. Implementers mentioned in interviews that it was necessary to 'start afresh' with the concept of innovation that they wanted to promote, that it was not 'a science project', but through interviews with key actors at school level, evaluators could not find the specificities of the concept promoted by the programme. Many times, teachers and principals mentioned SIC along with other science-related initiatives and science-related work they do, and the fact that sometimes student projects get taken to science-related fairs and awards does not help to clarify this aspect. Furthermore, as mentioned in Section 3.4, all the projects mentioned seemed

“

Whilst India is famous for doing a lot of hackathons and innovation, design challenges, none of them bring that diligence and focus on the upskilling part of it. [...] We want to bring that emphasis to the skilling because we do believe that that is our larger value proposition to this otherwise chaotic and noisy ecosystem in India when it comes to youth innovation and entrepreneurship.”

(UNICEF 1)

to be geared towards a technological type of innovation. Further, even though DSOs clearly saw the value of the SIC programme, two of the DSOs interviewed considered SIC within the universe of all other science-related programmes, without attaching a specific difference to it.

Still, **the programme's uniqueness in terms of upskilling was well understood and highlighted** by most stakeholders across the board.

Another challenge related to the specific set-up of SIC was that, unlike other initiatives, SIC was **not part of the official curriculum**, and therefore, any time dedicated to it was not allocated within school schedules. Thus, SIC always entailed an 'extra' workload for teachers. Additionally, as the programme was mostly taken forward by science teachers, SIC was added on top of their responsibilities in the other science and innovation-related projects mentioned. Teachers and principals reported that some of these programmes also took part at approximately the same time as SIC. This also meant that SIC **competed with these other programmes in both teachers' and students' time and dedication**, as sometimes students were chosen for SIC due to their skills in similar areas (i.e., science, math, English).

Testimonies from principals and teachers showed that, many times, SIC project ideas or models were presented in science fairs and other types of exhibitions (or vice versa, ideas presented in the latter had been put forward for SIC). This cross-cutting use of the science and innovation ideas for SIC hints at a potential element for programme coherence within the science-related education environment in Telangana.

A further challenge for programme coherence relates to DoE structures and roles within the programme. As explained in Section 5.2., SIC is not as fully integrated into the DSO's schedule and monitoring mechanisms as other science-oriented programmes.

Overall, SIC seemed to be perceived as valuable and with some unique features by most stakeholders involved, particularly regarding the focus on students' skill development and awareness of societal problems. However, as mentioned,

“

If we see all these various projects like SIC and Inspire, these are all interrelated, we have nothing difference in them. We have the same topics what we have Inspire and we have the same topics what we have in SIC.”

(DSO 3)

“

You have the INSPIRE science exhibition in August and September months. In addition, we are having this SIC project in the same months. Therefore, the students are facing a few problems. They are not getting enough time to participate in both projects. The students are getting confused by having all the programmes and exhibitions simultaneously.”

(DSO 3)

the evaluation found limited evidence of the programme's synergies with other programmes within the Telangana educational context. SIC operates within a context already marked by a multiplicity of science and innovation-related initiatives, which lack convergence, and, in practical terms, it often competes with these in students' and teachers' schedules as well as in DoE's priorities and oversight.

The fact SIC is presented as a 'science'-related programme, in the 'loaded' context of science and innovation ecosystem of Telangana, might be hindering a stronger uptake of the programme and obscuring its specific strengths.

On the other hand, there are some emerging positive developments towards the programme's coherence in the education landscape, reportedly connected to UNICEF's advocacy efforts at various government levels. One key issue is the establishment of the Y-Hub, a dedicated innovation hub directed at adolescents and youth in Telangana, which reportedly will oversee the implementation of SIC from 2024/25 onwards, in coordination with the DoE. Furthermore, UNICEF implementers reported ongoing discussions at the national level about finding convergence with other science-related programmes and pushing for the adoption of the SIC programme into the official school curriculum.

6 Programme Sustainability & Continuation

6.1. INTEREST AND CAPACITY FOR PROGRAMME CONTINUATION

Evaluation sub-question

What is the level of interest, motivation, and capacity for programme continuation among key stakeholders? How is sustainability envisaged?

[Replicability/Sustainability]

Most stakeholders interviewed, at school, district, and national levels, expressed **interest and availability to continue taking part in the programme in the future**. Stakeholders felt that the programme was useful, provided benefits to students, and had been validated, therefore they were satisfied to be associated with it.

Many teachers and principals expressed interest in continued participation, despite the reported high workload burden that was placed on teachers. This motivation to continue was driven by **the observed positive effects** on participating students, **the desire to extend these benefits to more students**, and the **sense of pride** associated with overseeing such a programme.

However, teachers, principals and DSOs highlighted the **need to address important challenges to programme implementation moving forward**. These included a need for additional resources, for making the course also available offline and for more time for course completion. Teachers emphasized the need for further support to deal with workload burden, and for additional training, while DSOs stressed their need for better access to programme oversight mechanisms and the request for recognition of their and the teachers' work.

Programme implementers mentioned **a series of adjustments that were under consideration or already being developed for programme continuation**, both at the operational and strategic levels, which would address some of the concerns raised.

“

I will be very happy if this project is implemented again in our school in the future because I will feel very proud and happy that I will play a role in producing so many innovative students from our school. I will try my best to produce students with a challenging mindset.”

(Focal teacher, M, at gov HS - IDI21)

On the strategic side, UNICEF implementers mentioned interest from the government to make the programme accessible to more students, as well as **readiness to integrate SIC into the regular curriculum**. Advocacy efforts from UNICEF are ongoing in this regard, as implementers understand that this is key for achieving a holistic transformation at school level. TSIC confirmed that there were ongoing conversations about streamlining the programme into the state curriculum and at the national level. However, the specific details pertaining to the proposed approach and allocation of resources had not been fully outlined yet. Stakeholders mentioned that a curriculum framework was being prepared for future discussion with the principal secretary of school education. UNICEF was also conducting meetings with national bodies of innovation (i.e., National Innovation Foundation and Atal Innovation Mission) to search for convergence of the various existing initiatives into one or two programmes, focusing efforts for impact and diminishing the DoE staff burden. Another important shift in the programme's operations was the establishment of the government innovation hub that will oversee implementing the programme's next edition.

On the operational side, UNICEF aims to start the programme around the months of July/August, a change suggested by programme participants and other stakeholders across the board. Further, teacher training was being reviewed to continue with the offline sessions and to consider options for certification in 21st century skilling to further promote buy-in and motivation. The curriculum



It needs a lot of systemic interventions, a lot of systemic strategies, where partners, UNICEF and the other agencies are actively working with the Education Department to bridge both the learning gaps and the infrastructure or the accessibility gaps.

(Implementing partner 3)

and user journey were also being reviewed to increase the programme's flexibility, considering that students used a limited number of devices and finished the course modules at different times. Furthermore, UNICEF was also developing the programme's Standard Operating Procedures to guide future implementers in other states or countries. Other issues reportedly being considered were the establishment of communities of practice to supplement support where required, and implementing a knowledge-sharing bootcamp with all winners across different districts in Telangana.

6.2. RISKS TO PROGRAMME SUSTAINABILITY AND SCALABILITY

As mentioned above, the measures planned for future iterations of the programme would address some of the concerns voiced by stakeholders. However, as long as the programme is not fitted within the regular curriculum, and the conditions for delivery stay the same, there are some key risks to the programme's sustainability and scalability:

- **Teacher burden:** The programme's **dependability on teachers'** availability, willingness to provide their own resources and to 'sort through' the obstacles cannot continue to be taken for granted, particularly if these teachers are expected to continue in their roles in the next cycles. Although during interviews most teachers expressed overall satisfaction with the programme and interest in their role, the burden was evident in their testimonies, and was made even more explicit during 'off-the-record' conversations with the field team. Requests for support need to be heeded. Further, teacher support is a limited resource, and as it is vital for helping students navigate

the experience, it is a key consideration if the programme moves on to become a regular feature in their schedule.

- **Limited availability of devices and internet data:** While it is true that most student teams were able to submit a project idea (see Figure 12) in the last implementation cycle, it is important to consider that differential access created differences in students' take-up and experience with the programme. Therefore, infrastructure and connectivity issues need to be factored in, to some extent, for programme continuation and scale-up.
- **Rights-holders' participation:** The selection process used by schools (see Section 1.3) favoured the participation of students with a pre-existing set of relevant skills and behavioural traits, such as creative thinking or academic performance. If the programme is expanded in future iterations to include a more diverse range of students who may not possess these preexisting skills, doubts arise regarding the extent to which similar results can be replicated. Further, support for students with different needs will need to be factored in.
- **Delivery structure:** The important yet insufficient involvement of some DoE staff in implementation can have implications for programme sustainability – in particular, DSOs' perception of their limited oversight due to third-party delivery, and insufficient involvement of principals in providing programme support. More involvement, however (particularly from DSOs), would also mean additional burden, so this is a delicate balance that may be explored by the programme in its efforts moving forward.

6.3. PLANS TO ENGAGE OUT-OF-SCHOOL ADOLESCENTS

Evaluation sub-question

What, if any, are the plans to engage out-of-school adolescents and what challenges and opportunities should be considered when doing so? [Replicability/Sustainability]

Implementers considered the inclusion of out-of-school adolescents when designing the programme, but seem to have discarded or postponed this option, in favor of making SIC available at all high schools and upper primary schools in Telangana.

From stakeholder discussions, there seems to be a common understanding among implementers that the programme would be more effectively implemented within an institutionalized environment such as the school, and that there is not yet sufficient understanding on how it could be operationalized with out-of-school adolescents. Some implementers mentioned the need to

research further and learn from 'best practices' to understand the social and contextual conditions, needs and potential drivers that would need to be factored in for delivering the programme in such contexts. Some concerns expressed by implementers included: finding the right channels to get through to out-of-school adolescents, the potential lack of support structures due to the lack of institutionalization, as well as potential higher costs per student, the difficulty of scaling up the programme in these contexts (and therefore, limited donor interest), and a perceived concern about the programme not matching the needs and requests of out-of-school adolescents.

Conclusions

This section recaps the evaluation findings described in the previous section and uses the evidence to answer the four high-level evaluation questions in the matrix, reconstructing the programme's overall 'process', and assessing the steps and assumptions against the evidence found. The **focus is placed on the process and outputs achieved rather than the outcomes**, due to the nature of this process evaluation. However, **without a programme theory of change or results framework, it is not possible to assess fully to what extent the expected outputs (and targets) were achieved.**

In the context of a high digital divide, where most target schools lacked digital infrastructure and resources, **the SIC programme take-up was undoubtedly high**, and stakeholders appreciated the value of carrying it forward. The programme succeeded in implementing a process that allowed it to reach its target schools, and appropriately identified and engaged key stakeholders, whose coordination enabled programme implementation. This overall level of adoption was possible thanks to the appropriate sensitization and engagement of the actors involved, the suitable channeling of the programme via the hierarchical structures of the DoE, and the design of a mobile-friendly platform.

In terms of **coherence**, the evaluation found **limited evidence of the programme's synergies within the Telangana educational context**. SIC operates amidst a multitude of science and innovation initiatives, lacking convergence. In practical terms, it frequently competes with these initiatives in students' and teachers' schedules, as well as in the DoE's priorities and oversight. Furthermore, presenting SIC as a 'science-related programme' in the already 'loaded' context of Telangana's science and innovation ecosystem might be impeding a stronger uptake of the programme and obscuring its unique strengths. However, thanks to its innovative approach and unique features, particularly its focus on students skill development and awareness of societal problems, as well as the continuous improvements the programme has made, SIC was **widely recognized by most stakeholders as valuable.**

A standout strength of the programme was its **relevance**. The programme's **content was found to be highly relevant and engaging for its target audience, and overall fitting to rights-holders' level of understanding**. Animated videos and interactive questions were easily followed by students, relatable and appealing. Implementers adopted an 'iterative' approach to the platform's design, adapting the content and features to the feedback received from end users (teachers and students). However, while most students found the SIC course content easy to comprehend, some issues arose regarding the use of difficult terminology, English terminology, and the lack of awareness of some school actors of the possibility of accessing the platform in Telegu.

Further, **the SIC platform was also adapted to the schools' circumstances by being mobile-responsive and reportedly suited to low bandwidth**. The initial technical issues faced by schools during the registration and log-in process were largely overcome through dedicated support from implementing partners during the training sessions and real-time support via WhatsApp groups. Yet some platform issues linked to buffering and bugs remained a challenge.

In terms of **effectiveness**, the programme **was successful in reaching a large number of schools** across all districts of Telangana, mostly the targeted government high schools and upper primary schools, as well as other school types not originally contemplated in the design, catering to a **wide diversity of school realities** in Telangana. **Despite not having data on the number of schools reached vs. targeted, evaluators note that the programme managed to receive a high number of project submissions across different types of schools**, with 65,000 received in the 2022 edition alone. Monitoring data shared by UNICEF shows that, despite the challenges, **75 per cent of registered school teams succeeded in finishing the course** and submitting a project idea. Even more noteworthy is that the schools with the most limited resources (namely, government and KGBV schools) featured a submission rate higher than or comparable to schools with better funding. This points to the existence of successful coping mechanisms, the high motivation of students and

teachers, as well as the effect of DoE engagement on course completion. The programme seems to have **successfully achieved high female participation**, in a context where girls usually have fewer opportunities and are less likely to be involved in IT-related upskilling.

The programme's **effectiveness** appears to have been **significantly affected by the challenges to access**. Despite overall highly positive feedback regarding the platform and the appropriateness of its content, rights-holders' and teachers' **experience with the online course and project design were significantly hindered by challenges** linked to school infrastructure deficiencies, as well as to SIC's lack of dedicated time within the school schedule. In the limited period that students could dedicate to SIC work, they rarely had individual access to digital devices to access the platform, and sharing among groups was a common practice. Further, low and/or disrupted connectivity was common and created difficulties for students to be able to follow the course.

Thus, limited access resulted in **difficulties to properly engage with the content, understand the concepts delivered, and to complete the course on time**. Moreover, some schools resorted to allowing or requesting students to follow the course from home, where students may face additional barriers according to their gendered household expectations and overall family circumstances.

Considering the challenges posed by infrastructural and time limitations, **teachers appeared as the 'driving forces' of the programme**; implementation at schools was made possible thanks to their willingness to contribute their own material resources and motivation to support students outside of school hours and within their already tight schedules. However, the high demand placed on teachers, coupled with low levels of support, caused growing discomfort and burnout among teachers. If measures are not put in place to address and alleviate their burden, **the programme's heavy dependence on teachers becomes a clear risk factor to its sustainability**. Additionally, teachers' **training for their SIC role was perceived as useful but insufficient**. District-

level actors indicated teachers' digital capacity gaps, while teachers asked to learn more teaching methodologies. In-person training for teachers was highly preferred and considered more appropriate for engaging them and bridging their capacity gaps.

In terms of **effectiveness and impact**, there seem to be some **positive emerging trends regarding rights-holders' knowledge and skill acquisition**, according to the testimonies collected, while there is **less evidence of them applying their skills to solve community problems or of systematic changes in their school settings** at a larger scale.

Based on testimonies from both children and adult stakeholders (teachers, principals, and DSOs), the programme reportedly enhanced participating rights-holders' problem-solving, creative thinking, critical thinking, teamwork and communication skills. Moreover, they exhibited a heightened awareness of social issues and increased confidence and sense of self-efficacy in devising solutions. However, it is important to acknowledge that the testimonies may have been influenced by a selection bias towards students with pre-existing aptitudes and that **it is not possible to establish the strength of rights-holders' prior skills in their skill development outcomes**.

Overall, the SIC participants demonstrated a **commitment to raising awareness** within their immediate circles, engaging in discussions about community problems and potential solutions with classmates, friends, relatives and neighbors. **While most schools visited faced challenges in implementing their project ideas, some positive changes were observed**, such as a greater interest in recycling and taking care of school environments. Wider community engagement and activism seemed to remain mostly at an aspirational level.

Student SIC projects reflected the SDG themes the students had learned about in the programme, were **related to their contexts**, and were a **product of problem-solving and creative-thinking processes** rooted in the skills and methodologies gained through the course. Nevertheless, **evaluators cannot assert whether students had all the necessary skills to submit quality projects, as limited data on project**

selection was provided by implementers. However, the 'advantage' of less-resourced schools shown in high rates of project submission was not maintained in the proportion of projects shortlisted by the programme's jurors, where schools with more resources showed higher rates of 'success' (shortlisted ideas).

In addition, projects submitted were consistently related to technological innovations and, for those shortlisted, their 'marketable' potential was also considered. These aspects show a somewhat **unresolved tension in the programme's design between innovation, entrepreneurship, and the resolution of critical societal problems**, which may have limited the number and type of projects related to societal improvement from flourishing.

Regarding **sustainability and scalability**, notwithstanding the overall positive outlook that the programme puts forward, the evaluation concludes that some key emerging issues need to be factored in to make sure that design and implementation challenges as well as actors' 'distress calls' are acknowledged and addressed in a timely manner. The evaluation identified at least three sets of key risks to the programme's sustainability and scalability, linked to: access, the programme's overall articulation in the school contexts, and the delivery structure.

Firstly, **deficient access to digital devices and connectivity is a vital concern that needs to receive more in-depth consideration** by implementers due to how much it affects rights-holders' experience and teachers' efforts (despite the mobile-friendly design and the coping mechanisms deployed by school actors). This is also a key issue for considering programme replicability elsewhere.

Regarding the school contexts, **teachers' motivation and engagement cannot continue to be taken for granted**, considering the relevance of their time and workload pressures. Teachers' requests for additional support need to be heeded, to ensure their continued buy-in and the prevention of detrimental coping mechanisms, such as overuse of their free time or the reduced support to non-SIC students. Moreover, there seems to be

a **missed opportunity in not explicitly engaging the school principals** to provide active support in implementing the programme at schools.

In its current form, **the programme presents some limitations for fostering equity and inclusion**. Being selection-based, the current criteria primarily focus on a certain set of characteristics and behavioural aspects, thus not always prioritizing the fundamental criterion of genuine interest. Although academic achievement is not necessarily primarily featured, **the selection criteria still leave many rights-holders behind**. Furthermore, the limited number of devices and the challenges of consistent programme implementation in the school context impacted student's experience with the programme, more so **for rights-holders with different capabilities and resources** (in particular, students with limited or no access to mobiles, students with less capacity to understand the contents, students from certain family/economic backgrounds, and students with visual or hearing disabilities).

The current programme delivery shows some potential issues regarding **limited visibility of implementing actors at some levels** (i.e., schools), some communication gaps (i.e., between district coordinators and the technology team), and concerns for DoE ownership (i.e., DSOs' limited oversight), which need to be factored in for programme continuation.

However, another standout feature of the programme, consistently shown throughout its existence, has been its **inherent commitment to improvement**, by way of iterative revisions and stakeholder discussions during and after each cycle. This mechanism has already brought in several improvements from its onset, such as a more interactive and contextualized learning platform, in-person teacher training, and regular online support mechanisms for teachers.

Looking ahead, **further positive adjustments are already under consideration that align with the findings of this evaluation**. These include the shift to a more convenient timing within the academic year and the potential integration of the programme into the regular curriculum. Additionally,

encouraging developments are emerging toward the programme's coherence, attributed to UNICEF's advocacy efforts at various government levels.

To achieve its full potential, the programme should proactively and systematically address challenges through the implementation of the planned adjustments and the addition of further improvements recommended by this evaluation, in line with the identified needs and demands of participants. The evaluators believe that, by doing so, the programme can ensure long-term sustainability and cohesion, bolster its effectiveness, and enhance its equity and inclusivity, thus enabling a broader range of students to leverage the programme's benefits.

LESSONS LEARNED

Based on evaluation findings, the following lessons learned can be outlined, with wider applicability beyond the scope of the present evaluation:

- Despite participants' general previous low ICT exposure and skills, this programme shows that ICTs can be a useful tool to engage adolescents and teachers of various ages and across a variety of school contexts in Telangana/India, and that impactful learning via ICTs can take place even in contexts of limited access, by providing appropriate channels and targeted support. It also shows that even with limited input, such initiatives can create a good basis for other positive developments for students and teachers.
- Low exposure to and low prioritization of ICTs in education institutions' mandates and/or operations are not insurmountable obstacles for an ICT-based upskilling programme, so long as it can secure the involvement and buy-in of the appropriate stakeholders in its implementation, and be combined with a feasible technological delivery (i.e., mobile-responsive design). The importance of having a recognized government partner who is interested in advancing the innovation agenda was also a major learning in the case of this programme (as mentioned by implementers).
- Understanding how issues of access affect rights-holders differently according to their contexts, socio-economic and family backgrounds needs to be factored in, and appropriate support measures put forward, so that already existing vulnerabilities and divides are not perpetuated (or potentiated) by ICT-facilitated upskilling programmes.
- Assignments that give adolescents opportunities to think for themselves and develop solutions for their communities, including hands-on experience, make them feel useful and capable and seem to positively influence their confidence and social consciousness.
- It is essential to develop mechanisms that can systematically (and objectively) track students' learning outcomes (knowledge and skill acquisition) beyond motivation, to ensure that students are meeting their learning potential, something to which student testimonies or numbers of project submitted cannot attest.
- In a context of limited resources, an open discussion remains on the goals and target participants of programmes directed at rights-holders' upskilling in the school context. Programmatic differences (and related considerations) need to be considered depending on whether the programme is targeting students that already show skills in relevant areas and can therefore be expected to maximize their learning, or whether the programme seeks to upskill all student types, with a 'leave-no-one-behind approach', including those with lower performance, motivation and/or engagement in studies. Depending on the goals, clear strategies need to be developed accordingly.

Recommendations

Evaluation sub-question

What recommendations can be drawn from programme implementation to uphold its sustainability and inform future programming (including potential upscaling and replication?)

The recommendations presented in this section are derived from the research findings, feedback from programme participants and implementers, and principles drawn from the Convention on the Rights of the Child (CRC)'s approach to education. These recommendations, which are rooted in the evaluation findings, are categorized into strategic and operational aspects. They emphasize an approach to education that is equitable, inclusive, and accessible, with a strong focus on rights, respect, non-discrimination, safety and participation.

STRATEGIC RECOMMENDATIONS

Recommendation 1	Priority	Stakeholders
Collaboratively develop programme TOC to clarify intermediate and final goals and pathways to achievement	HIGH	UNICEF, Inqui-Lab, TSIC
<p>The programme needs to establish a clear narrative and structure of what success looks like and how to get there through a TOC or similar results pathway, including intermediate and final results, assumptions, and risks to the chain of expected changes. Results also need to be aligned with the SDGs that the programme is intended to contribute to. The TOC, developed collaboratively with relevant stakeholders, will help to:</p> <ul style="list-style-type: none"> ■ Clarify what the programme is intended to achieve, for all rights-holders and duty-bearers involved, including how inclusivity looks in a context of equity-based programming. ■ Ensure that the right mechanisms are in place to get there (or visualize whether further measures are needed). ■ Ensure that potential risks can be factored in and planned for. ■ Help to consistently monitor progress and allow future evaluations to provide more systematic assessments based on specific sets of results. 		

Recommendation 2	Priority	Stakeholders
Clarify the programme's 'mindset' regarding innovation and its links to entrepreneurship, and decide whether a broader focus can contribute to delivering programme goals	MEDIUM	UNICEF
<p>Depending on the priority goals decided for the intervention (see Recommendation 1), explore whether a shift or expansion of the concept of innovation may contribute to achieving programme results. In particular, understanding of innovation beyond the current science- or technology-based innovation 'imprint', and broadening the 'model' ideas to solve community problems beyond material-based solutions with a 'marketable' potential that can be prototyped. First, these conceptual expansions may allow development of a wider set of skills among rights-holders and further help to differentiate the programme from others in the state, articulating it better within the current education context in Telangana. Moreover, broadening the horizon beyond 'entrepreneurial' ideas could also potentially contribute to more solutions to community problems and increase community participation. Different categories could be implemented, in line with the social innovation prize that the programme is piloting.</p>		

RECOMMENDATION 3	PRIORITY	STAKEHOLDERS
Strengthen the programme's coherence in the educational context of Telangana	HIGH	UNICEF, TSIC, DoE
<p>Some issues identified around programme coherence suggest that taking measures to strengthen the programme's articulation in the educational context of Telangana would reap benefits for stakeholder engagement, as well as for the programme's overall performance. Implementers are already working towards this goal; however, it is unclear how quickly a systemic change in terms of SIC being featured in the curriculum can happen.</p> <p>In the meantime, there are several measures that can be taken to improve coherence:</p> <ul style="list-style-type: none"> ■ Ensure better coordination with stakeholders involved in other science and innovation initiatives, including ensuring that the SIC programme's timing does not overlap with others. ■ Better clarify the programme's objectives to better visualize complementarities and gaps, and seek synergies. ■ Organize common events to boost coordination and synergies. 		

OPERATIONAL RECOMMENDATIONS

Recommendation 1	Priority	Stakeholders
Introduce further adjustments to the platform and content to enhance relevance, equity, and address student knowledge gaps	MEDIUM	UNICEF, Inqui-Lab
<p>The platform and its content have undergone an iterative learning and adaptation process led by implementers to better fit students' needs. Some further changes could be introduced to bridge standing knowledge gaps and enhance appropriateness, as follows:</p> <ul style="list-style-type: none"> ■ Revise the wording used in the course content, particularly the reflective questions and additional reading material, to ensure its simplicity and clarity. ■ Avoid the use of English terminology in the Telegu version. ■ Review whether registering and log-in processes can be simplified to avoid students' repeated issues. ■ Explore any further adjustments that can be introduced for compatibility with low band-width, to address reported issues of buffering and bugs hampering the experience. ■ Ensure that the Telegu language change option is clear enough in the platform and sufficiently explained during teachers' training. ■ Ensure inclusion of functions like closed captions, transcripts, audio descriptions or screen reader compatibility, to facilitate the experience of students with different capabilities. 		

Recommendation 2	Priority	Stakeholders
Address programme access and connectivity challenges by adjusting the programme's format and delivery	HIGH	UNICEF, Inqui-Lab
<p>Infrastructure and connectivity directly affect programme take-up, students' experience, and teachers' burden. These key issues call for an adjustment to the programme's format and delivery, that can allow students to follow the course even when they do not have internet or sufficient access to digital devices.</p> <ul style="list-style-type: none"> ■ Deploying a hybrid model with some offline components may help to keep the 'best of both worlds', in terms of quality content and access. Having the contents also available offline can help students and teachers access and review the contents, addressing some of the risks and inequalities of an online-only course. ■ If a hybrid format is not deemed feasible, alternative measures need to be explored for the programme to support schools in infrastructure and connectivity. Support would also prevent teachers' resorting to personal expenditure and/or detrimental coping mechanisms. When considering support, consider that providing access to devices would be a particular requirement for students with diverse capabilities to properly engage with the course content. 		

RECOMMENDATION 3	PRIORITY	STAKEHOLDERS
Review student selection and participation approach if the aim is to promote more equitable access	HIGH	UNICEF
<p>If the programme's goal is to achieve equal opportunities to access for all interested students (still within a context of limited resources and slots), a revision of the student selection and participation approach needs to be conducted. To advance towards equity in participation and take into consideration the diversity of rights-holders across classrooms, a clear system and/or specific guidelines need to be given to teachers, and their adoption monitored, so that they are not selected based on their previous skills and capabilities (whether these are academic or soft skills).</p> <p>If the goal of equal opportunities is to be achieved, implementers also need to consider that, if students with different capabilities and affected to different degrees by socio-cultural norms are more systematically included in the programme, then the differential levels of support needed will impact the teacher's role and their burden, and that support mechanisms will need to be adjusted accordingly (see Recommendation 4). In addition to any additional support provided by the teacher/programme, targeted messaging to parents, and systematic efforts to include them in the programme development phase might also be explored to ensure their buy-in and support to adolescents.</p>		

RECOMMENDATION 4	PRIORITY	STAKEHOLDERS
Review and adjust teacher guidance and support mechanisms to ensure better accessibility and support for students in the school context	HIGH	UNICEF, DoE
<p>Findings showed that students have unequal access to teachers' support at school (due to differences in their availability, engagement, and workload across schools), and that some are asked to go through the course at home, without teacher support. Findings also showed that students that lack adequate teacher support may face difficulties understanding the content, hampering their experience with and leverage of the course. To mitigate these issues, the programme could:</p> <ul style="list-style-type: none"> ■ Take measures to ensure teachers' availability to guide students so that all can achieve a similar level of understanding, by ensuring that the programme coursework is carried out at school (i.e., allocation of specific times/spaces). ■ Explore options for providing support to schools for dedicated time and resources for implementation. This will discourage teachers from allowing or expecting students to go through the course at home, thus avoiding additional barriers for students' opportunities to access depending on their family background, resources, and household realities. 		

RECOMMENDATION 5	PRIORITY	STAKEHOLDERS
Expand teacher training and continue to provide it in-person (in addition to continuing with online support mechanisms)	HIGH	UNICEF, Inqui-Lab, DoE
<p>Teacher training needs to be expanded, as it is currently perceived as insufficient. However, this risks further increasing their time and cost burden, so a balance must be found in coordination with DoE stakeholders. For training to better meet expressed needs, the programme could:</p> <ul style="list-style-type: none"> ■ Provide a longer and more in-depth training that addresses teachers' capacity gaps and allows them to get better familiarized with the platform and the course content ■ Provide more guidance on teaching and facilitation methodologies, and how they can apply these to their regular classes. ■ Keep the training in-person, to allow for better teacher engagement and opportunity to address ICT capacity gaps (especially at the onset), while also maintaining the follow-up online support mechanisms that have proven useful. ■ Ensure all teachers, no matter the timing of their onboarding to the programme, have the same opportunities to receive the necessary training. ■ Continue exploring options for providing recognized teacher certification through trainings, to acknowledge teachers' work and provide beneficial career advancement. 		

RECOMMENDATION 6	PRIORITY	STAKEHOLDERS
Address focal teacher workload burden and take further measures to promote teacher support and recognition	HIGH	UNICEF, DoE
<p>Teachers' motivation and engagement cannot continue to be taken for granted, especially considering workload burden. Appropriate support measures to ease their burden, maximize benefits, and secure teacher buy-in need to be introduced, following discussions with DoE to ensure feasibility. Some options within the programme's reach are:</p> <ul style="list-style-type: none"> ■ Ensure an 'early' programme launch (during the summer months) to give teachers and students time for completion, away from their exam time. ■ Revise and/or extend the two-month 'time window' in which the course can be completed, so that schools have more flexibility to allocate their limited resources. ■ Establish a SIC teacher 'community of practice' with whom teachers could share experiences, recommendations, and brainstorm challenges and solutions. ■ Develop systematic feedback loops where teachers can periodically provide feedback to the programme. ■ Explore options for offering incentives and recognition for teachers' work to boost and sustain their motivation. <p>Additionally, the following options can be explored with DSO and school staff for feasibility:</p> <ul style="list-style-type: none"> ■ Requesting participating schools to allocate specific time slots and spaces for SIC; ■ Involving more than one teacher per school in SIC, so support and potential replacements are available. 		

RECOMMENDATION 7	PRIORITY	STAKEHOLDERS
Increase involvement and enhance ownership of other district and school-level actors	MEDIUM	UNICEF, DoE
<p>In line with providing more support for teachers, school principals could have a more relevant role in programme implementation and in supporting teachers in programme participation. Principals can allocate spaces and times for SIC, provide support to teachers, and mobilize resources. However, there is currently no systematic approach to implementation at the school-system level, and the principal's role is limited to early-stage participation and then a mostly 'nominal' follow-up of project completion, as they are the DSOs' key contact point.</p> <p>Targeting principals in SIC messaging and providing sensitization/orientation as done with DSOs may prove beneficial for principals to feel more ownership of the programme and for becoming more actively (and helpfully) involved. Principals becoming programme ambassadors and mobilizing resources could support programme implementation.</p> <p>In addition, a greater involvement of DSOs in the oversight of the programme's process (i.e., having access to the dashboard, being able to check progress) needs to be explored, as it would increase their capability for programme supervision and their sense of ownership. Furthermore, DSOs require external recognition of their functions, which would also work towards better ownership and programme support.</p>		

RECOMMENDATION 8	PRIORITY	STAKEHOLDERS
<p>Strengthen monitoring mechanisms to improve understanding of the achievement of outputs and outcomes, as well as key barriers to implementation</p>	HIGH	UNICEF
<p>Once outputs and outcomes under the programme are clarified, establish regular monitoring mechanisms to ensure that output/outcome progress is recorded, and key issues and emerging challenges related to outputs/outcomes are documented. The digital nature of the programme should be leveraged for monitoring and adaptive management, while keeping resource costs low. Better data will allow for more insightful and evidence-based evaluations in future iterations. One option for future evaluation is to design a rigorous impact evaluation of the programme, such as a randomized control trial (RCT), where students (or schools) are randomly selected to participate. Regarding monitoring and evaluation, the key recommendations are as follows:</p> <ul style="list-style-type: none"> ■ Implement an extensive baseline/endline survey, such as the student survey originally designed (but not implemented) for this programme, which can ensure comparability of results. In addition to subjective questions and self-assessments, the survey should include objective questions that test student knowledge. ■ Implement a complementary baseline/endline survey, similar to the teacher survey originally designed (but not implemented). ■ Develop a system for regularly collecting and then organizing all ad-hoc teacher and student feedback. ■ Introduce systems to improve the programme’s understanding and measurement of students’ experience with the various course components, i.e.: <ul style="list-style-type: none"> ■ Insert mechanisms to track students’ individual access and utilization of each course component, to better understand where knowledge gaps lie. ■ Integrate A/B tests throughout any online components. For example, randomize which version of a video/quiz/reading students see, and then ask them to rate the video/quiz/reading or test their understanding of the content. ■ Include identifiers for each student participant, including gender, age, disability, class, school, team registered, and data tracking for their progress on the course. ■ Document implementation progress and challenges systematically, i.e., via accessible and live monitoring boards, so that data is kept updated and available to implementers (and DSOs, if deemed feasible). Include reasons for discontinued participation, frequency, and types of challenges, and at which point of the course challenges are met, to better inform implementation gaps. ■ Make visible and shareable the data on the idea evaluation process, including the points awarded to each team by the jury. ■ Design an impact evaluation of the programme, such as RCT that uses random assignment to isolate the average treatment effect of the programme as a whole. 		

Annexes

ANNEX 1 EVALUATION MATRIX

Sub-research questions	Indicators	Sources and methods
Effectiveness To what extent has the programme met its outputs and is advancing toward reaching its outcomes? Do programme assumptions hold?		
How effective was the programme at reinforcing adolescents' knowledge and skills? <ul style="list-style-type: none"> critical and creative thinking problem-solving skills empathy and collaboration skills awareness of the SDGs confidence digital literacy 	<ul style="list-style-type: none"> Stakeholder accounts or/and students' self-reported accounts of: <ul style="list-style-type: none"> Students demonstrating original, innovative ideas and solutions, and applying critical analysis. Students having learned how to resolve problems/ challenges. Students working effectively in teams, showing understanding and respect for others. Students' knowledge and/or understanding of SDGs and related themes. Changes in students' self-assuredness and willingness to participate in discussions, present their work, engage with community members. Students' increased skills in using digital tools and platforms effectively. Quantitative percentages of students reporting increased knowledge and skills in each of the categories. Quantitative percentages of students reporting increased confidence in surveys. 	KIs with teachers, principals and DSOs FGDs with students Pre/post-surveys with students
In which ways were the acquired skills and knowledge reflected in the design of the projects submitted by students?	<ul style="list-style-type: none"> Stakeholder reports of evidence showing students' application of critical thinking, problem-solving, empathy, collaboration, SDG awareness, confidence, and digital literacy in the design and execution of their projects. 	KIs with teachers, DSOs and jury members FGDs with students
How effective was the programme at promoting active citizenship and community engagement?	<ul style="list-style-type: none"> Reported instances of students taking initiative in community activities or showing increased interest in community issues as a result of the programme. Reported accounts of students applying the skills and knowledge gained from the programme to contribute to their communities. 	KIs with teachers, principals and DSOs FGDs with students
To what extent has the programme contributed to students' academic performance and motivation ?	<ul style="list-style-type: none"> Reported changes in students' academic performance since participating in the programme. Reported increase in students' motivation towards their studies. Quantitative percentages of students reporting more interest in school after programme participation. 	KIs with teachers and principals FGDs with students Pre/post-surveys with students

Sub-research questions	Indicators	Sources and methods
To what extent has the programme helped to build an entrepreneurial and innovative ecosystem in schools?	<ul style="list-style-type: none"> • Reported evidence of increased entrepreneurial activities or initiatives in the school. • Reported changes in the school culture towards encouraging innovation and entrepreneurship. 	Klls with teachers, principals and DSOs
How available and effective were teachers' mentorship and guidance ? Was their role clear?	<ul style="list-style-type: none"> • Stakeholder accounts on the frequency and timeliness of teachers' mentorship. • Stakeholder perceptions on the impact and usefulness of teachers' guidance, by type. • Stakeholder reports on the understanding and clarity of teachers' roles in the programme. 	Klls with teachers, principals and DSOs
How helpful were the teacher training resources (sessions conducted across the state, handbook) for effectively supporting teachers in their role?	<ul style="list-style-type: none"> • Stakeholder feedback on the utility/ usefulness of the training sessions and handbook provided to teachers. • Stakeholder accounts on how well the training resources supported teachers in their roles. 	Klls with teachers, principals and DSOs
What types of conditions (infrastructural, educational, socio-cultural, etc.) have contributed to producing differential effects in programme take-up and effectiveness?	<ul style="list-style-type: none"> • Stakeholder descriptions of the physical and technological infrastructure and its impact on programme take-up and effectiveness. • Stakeholder accounts of the educational environment, including teaching methods, curriculum, and school leadership, and their influence on the programme. • Stakeholder insights into the social and cultural factors, such as community attitudes towards education, gender norms, etc., and their effect on the programme. • Other conditions reported by stakeholders as relevant to implementation and effects. 	<p>Klls with teachers, principals, DSOs, district coordinators, TSIC and Inqui-Lab</p> <p>FGDs with students</p>
<p>Relevance b. How appropriate is the programme in terms of content, accessibility and user-friendliness vis-à-vis the students' needs, interests and capabilities?</p>		
<p>Did students have an equal opportunity to participate in the programme? (age/gender/ academic levels)</p> <p>How equitable is the access to and use of the platform and course components for all types of students (considering disability status, digital literacy, cultural background and material conditions)?</p>	<ul style="list-style-type: none"> • Stakeholder accounts or/and students' self-reported accounts of: <ul style="list-style-type: none"> o The representation and active involvement of students across different age groups, genders, and academic levels in the programme activities. o The ease of access and usage of the platform and various course components for students with disabilities, different levels of digital literacy, diverse cultural backgrounds, and different material conditions. 	<p>Klls with teachers, principals, DSOs, district coordinators, TSIC and Inqui-Lab</p>

Sub-research questions	Indicators	Sources and methods
To what extent and in what ways was the programme able to adjust to the diversity of material and sociocultural realities present in the different types of school settings?	<ul style="list-style-type: none"> Stakeholder descriptions of specific adjustments made by the programme to accommodate the diverse realities (material, sociocultural, etc.) in different school settings. 	KIs with teachers, principals, DSOs, UNICEF, TSIC Inqui-Lab and district coordinators
<p>How engaging and relevant was the content for students?</p> <p>What did the students like and dislike about each of the course elements?</p> <p>How clear and understandable were the following course elements for students (videos, reflective questions, quizzes, additional reading materials, worksheets)</p> <p>Did the additional reading material help in understanding the module's content better?</p> <p>Were the worksheets useful to guide students? Did the students have enough time to complete them?</p>	<ul style="list-style-type: none"> Stakeholders' and students' accounts regarding: <ul style="list-style-type: none"> Student engagement with the course content. Specific elements of the course that students expressed liking or disliking, as reported by stakeholders. Students' understanding of the course elements (including examples of which components they found most/least comprehensible and why). Stakeholders accounts on the use and perceptions of the additional reading material. Stakeholder reports on the overall usefulness of the worksheets in guiding students through the course material, as well as general feedback on whether the time allotted for worksheet completion was adequate. 	<p>KIs with teachers, principals, and DSOs</p> <p>FGDs with students</p> <p>Pre/post-surveys with students</p> <p>Quantitative programme data</p>
<p>Replicability and sustainability c) What lessons can be learned and recommendations drawn from programme implementation to uphold its sustainability and inform future programming (including potential upscaling and replication?)</p>		
What barriers or enablers were encountered in implementing, monitoring, and evaluating the platform? How were challenges resolved?	<ul style="list-style-type: none"> Stakeholder accounts of specific obstacles or facilitators encountered during the implementation, monitoring, and evaluation of the platform, including technical issues, resource availability, levels of user engagement. Stakeholder descriptions of the strategies or methods employed to overcome these challenges. 	KIs with teachers, principals, DSOs, UNICEF, TSIC, Inqui-Lab, and district coordinators
What are the specific school conditions needed to ensure successful implementation of the programme?	<ul style="list-style-type: none"> Stakeholder descriptions of the specific conditions that are necessary for the successful implementation of the programme in schools (infrastructural requirements, teacher training needs, student engagement strategies, school schedule, leadership support, etc.) 	<p>KIs with teachers, principals, DSOs, UNICEF, TSIC, Inqui-Lab, and district coordinators.</p> <p>FGDs with students</p>
<p>What are the platform's benefits, strengths and shortcomings as identified by teachers and as identified by the participating students?</p> <p>What changes would students and teachers recommend in future iterations of the platform?</p> <p>What could help teachers perform their role better?</p>	<ul style="list-style-type: none"> Stakeholder (especially teachers and students) perceptions of the platform's benefits, strengths, and shortcomings, including aspects related to usability, content quality, etc. Stakeholders' suggestions for changes or improvements (to the platform and the programme) and reasons for these. 	Quantitative programme data

Sub-research questions	Indicators	Sources and methods
What is the ideal student-teacher ratio for such a programme?	<ul style="list-style-type: none"> Stakeholder perspectives on the current and ideal number of students per teacher for effective learning in the programme. 	KIs with teachers and principals.
<p>What are salient characteristics of projects submitted by students and in which ways do they fit their respective contexts?</p> <p>What are the most common shortcomings of projects submitted by students?</p> <p>What can be learned from shortlisted projects (best practices)?</p>	<ul style="list-style-type: none"> Stakeholders' descriptions about: <ul style="list-style-type: none"> The unique features, creativity, and context relevance observed in the student projects. Common issues or areas of improvement identified. Key success factors or effective strategies derived from the top-performing student projects. 	KIs with teachers, principals, DSOs, UNICEF, TSIC, Inqui-Lab staff and jury members
What is the level of interest, motivation, and capacity for programme continuation among key stakeholders? How is its sustainability envisaged?	<ul style="list-style-type: none"> Stakeholder feedback on their interest and ability to continue the programme, suggestions, and any plans outlined for ensuring its long-term sustainability. 	KIs with teachers, principals, DSOs, UNICEF, TSIC and Inqui-Lab staff.
What, if any, are the plans to engage out-of-school adolescents and what challenges and opportunities should be considered when doing so?	<ul style="list-style-type: none"> Stakeholder plans and considerations for involving out-of-school adolescents in the programme, including potential challenges and opportunities. 	KIs with UNICEF, TSIC and Inqui-Lab staff.
Coherence		
d) What is the nature of stakeholder collaboration, and how has it influenced programme implementation?		
<p>What synergies exist between stakeholders involved in the programme implementation?</p> <ul style="list-style-type: none"> How do their roles complement each other? What is the level of awareness among stakeholders about each other's role within the programme? 	<ul style="list-style-type: none"> Number and types of collaborations or partnerships reported between stakeholders. Examples of successful collaborations or partnerships. Stakeholders' perceptions of the benefits of these synergies. Stakeholders' understanding of their own role and the roles of others. Examples of how these roles complement (or compete) with each other in programme implementation. Stakeholders' reported level of awareness about each. 	KIs with teachers, principals, DSOs, UNICEF, TSIC, Inqui-Lab, and district coordinators.
What coordination mechanisms are in place among stakeholders?	<ul style="list-style-type: none"> Types of coordination mechanisms reported by stakeholders for project design, implementation and monitoring. Stakeholders' perceptions of the effectiveness of these mechanisms. 	
What challenges and shortcomings have stakeholders faced in coordinating their efforts?	<ul style="list-style-type: none"> Types of challenges and shortcomings reported by stakeholders in coordinating their efforts. Stakeholders' suggestions for overcoming these challenges. 	
<p>What synergies exist with other relevant programmes and initiatives targeting adolescents in Telangana?</p> <p>How do they complement each other?</p>	<ul style="list-style-type: none"> Number and types of synergies reported with other relevant programmes and initiatives targeting adolescents. Examples of how these programmes complement, overlap, or compete with each other. Stakeholders' perceptions of the benefits (or potential benefits) of these synergies. 	KIs with teachers, principals, DSOs, UNICEF, TSIC and Inqui-Lab,

ANNEX 2 RISKS AND MITIGATION STRATEGIES

Risks qualitative data collection	
Risk	Mitigation strategy
Administrative, logistics & mobility related risks: <ul style="list-style-type: none"> Lack of political and legal support 	<ul style="list-style-type: none"> Involve local authorities and ensure regular communications with relevant stakeholders. Adopt strict (safety) field protocols and Covid-19 contingency plan, including options to switch from face-to face to remote data collection.
Reliance on programme staff during sample selection leads to sampling bias in favor of 'good performers.'	<ul style="list-style-type: none"> If feasible, UNICEF monitoring and evaluation field staff monitor and backstop implementing partners during beneficiary identification and selection.
Evaluation participants do not show up (e.g., FGD).	<ul style="list-style-type: none"> Liaise with school principals and teachers prior to fieldwork visits to ensure students are informed and prepared to participate in the FGD and that the timing of this is suitable for them.
Adolescent evaluation participants don't feel comfortable enough to openly share their experiences.	<ul style="list-style-type: none"> Employ researchers with experience working with adolescents and optimal interpersonal skills to engage with them in a respectful, kind and friendly manner. Identify an interview setting that is familiar to participants (where they feel safe and comfortable), as well as private and quiet enough to ensure confidentiality. Engage adolescent participants in ice-breaker games (in a group, when relevant and possible) before FGDs to start building rapport with them and help them loosen up. Begin the interviews with a casual conversation and allow the conversation to flow naturally, with more sensitive topics only introduced once the respondent is already engaged. <p>Reassure participants that the interview uses a language that they understand, about C4ED's confidentiality policy, about the goal of the interview and what is expected of them, and about their liberty to leave the interview at any point or skip any question they are not comfortable answering.</p> <p>Introduce alternative interview techniques to elicit responses (e.g., writing on pieces of paper, posting stickers with responses to elicit group discussion).</p>
Low data quality: <ul style="list-style-type: none"> Low field researcher performance. Low quality due to unforeseen events or inconsistencies during data collection. 	<ul style="list-style-type: none"> Follow a thorough assessment and careful recruitment of external researchers/data collectors. Conduct in-depth training for qualitative researchers with performance observation during the training. Assess field staff after training and continuously track their performance during data collection.
Inconsistency of results during analysis.	<ul style="list-style-type: none"> Triangulate findings by using multiple field researchers, sources of data and methods for data collection. Let results be peer reviewed.
Indicators selected to describe characteristics of interest do not measure the actual construct.	<ul style="list-style-type: none"> Careful monitoring and adaptation of the interview tools during data collection, where necessary. Ensure high quality translation to local languages.
Risks secondary data analysis	
Risk	Mitigation strategy
Low data quality: <ul style="list-style-type: none"> Missing values in key variables. 	<ul style="list-style-type: none"> Check whether the missing values can be generated from related variables or impute using standardized method.
Uncertainty about data reliability.	<ul style="list-style-type: none"> Critically reflect and discuss the potential limitations with UNICEF for each data set before using it.

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ANNEX 4 TERMS OF REFERENCE FOR A PROCESS EVALUATION OF THE ADOLESCENT SKILLS AND EMPLOYMENT INITIATIVE IN TELANGANA (INDIA)

1. RATIONALE

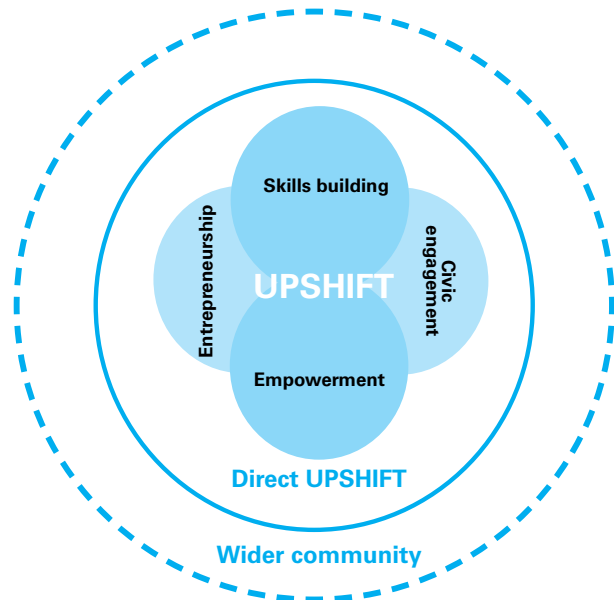
South Asia is home to over 380 million young people, representing nearly 30% of the youth population globally. India, with about 253 million young people aged between 10 and 19 years represents more than half the adolescent population in South Asia. In India, until very recently, majority of the education system's pedagogy and syllabus emphasized literacy, numeracy, and rote learning-centric pedagogy. As a result, young people have been graduating from schools equipped with very basic skills, which narrowed their job opportunities and impacted their workforce participation. Moreover, since the COVID-19 pandemic, youth unemployment rate is purported to rise to 32.5 percent – the third highest rate predicted among the 13 countries in Asia and the Pacific – together with a steadily decreasing labor force participation in the region.

The National Education Policy is heralding a new order across India (alongside Bangladesh, Maldives, and Bhutan) by pushing for a systemic shift towards higher order skills such as critical thinking, creative thing, problem solving, among others. Moreover, there is a growing political-economic thrust to develop self-sufficient individuals and self-sustaining communities, which would forge a new post-pandemic normal. As a result, an increasing number of stakeholders in the system are committing to improve 'access, equity, quality, gender equality, affordability and accountability'

2. UNICEF RESPONSE

UPSHIFT is a youth social innovation and social entrepreneurship program that aims to build skills and opportunities for adolescents and young people. Launched in 2014, the program empowers young people to identify problems in their communities and design solutions that address them.

UPSHIFT considers young people as partners in development rather than as beneficiaries. Through UPSHIFT, young people are equipped with the skills



to both create and shape their own futures and positively impact the future of their communities. UPSHIFT is now in implementation across 47 countries.

Through the process of combining innovation workshops, mentorship, and seed funding opportunities, adolescents and young people are equipped with skills for life and skills for employment. UPSHIFT has four separate but interconnected components: skills building, civic engagement, entrepreneurship, and empowerment.

1. **Skills Building:** building of transferrable skills including problem-solving, critical thinking, creativity, collaboration, communication, and leadership.
2. **Civic Engagement:** meaningfully engaging adolescents and young people in their communities
3. **Entrepreneurship:** referred to as both a skillset and a mindset – to think like an entrepreneur is to be motivated to solve a problem and to make a viable and sustainable solution
4. **Empowerment:** development of confidence, resilience, and sense of agency among adolescents and young people.

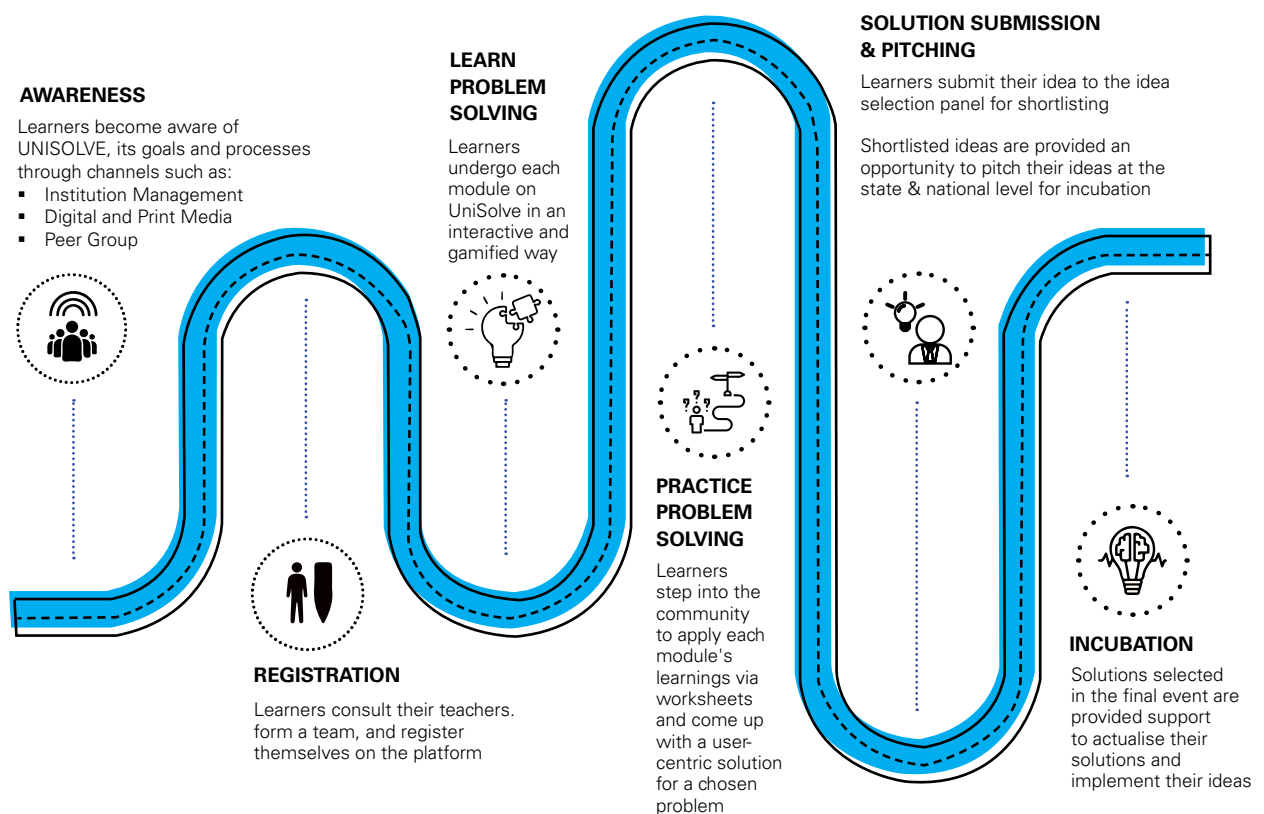
UNISOLVE is a digital platform designed to facilitate UPSHIFT delivery through a school-based, teacher-facilitated blended learning model (cf. learner journey overview). It combines the advantages of distance learning opportunities and face-to-face activities to promote creativity and social innovation among adolescents and young people. UNISOLVE aims at equipping adolescents and young people with 21st century skills and resources to propose solutions that address problems in their communities.

The School Innovation Challenge (SIC) platform originated from a partnership between UNICEF and the education authorities of the state of Telangana (India) to promote design thinking and the development of 21st century transferable skills in upper primary and secondary government schools under the Government motto of “One innovator per family”.

The SIC was conceived from the onset as a digital transformation of the UPSHIFT programme through

a school-based teacher facilitated blended delivery model. Designed with, and for the education system with scalability in mind, the SIC has two major components: a Learning Management System (LMS) and a Challenge Management System (CMS). The LMS serves two purposes:

1. It provides teachers with an online training module, which prepares teachers and facilitators to accompany the students’ learning journey, and
2. It provides students with individualized access to an online digital UPSHIT curriculum. Through SIC, the automation of the train the trainers approach removes one of the most important bottlenecks for scale. Moreover, the curriculum itself is not a digitization of the face-to-face model but specifically developed for digital delivery within a blended learning environment and includes small modules of highly interactive content delivered within a gamification environment.



The second core element of the platform is a Challenge Management System (CMS) that allows for the integration of competitions where young people's solutions are judged, and the best teams receive seed funding and mentoring support to implement their solutions. These challenges are a central part of the UPSHIFT model as they have a proven track record to motivate the participation of young people and institutions alike. In addition, they provide strong platforms to advocate for skills development and young people's engagement as well as for partnerships building with the private sector. In effect, the CMS allows for automated, asynchronous management of the submission, judging and selection of solutions removing another key bottleneck for scale of the UPSHIFT model.

From an institutional standpoint, the platform reduces human and financial costs for schools to participate as well as the costs for administering the platform, content delivery and challenge management are relatively lower. From a user standpoint, the SIC combines the advantages of distance learning opportunities and face-to-face activities into a school-based, teacher-led, blended approach with a strong emphasis on experimental learning. The platform was piloted between September 2020 and January 2021 in 4,041 schools where 5,067 schoolteachers were trained to be content facilitators. A total of 23,881 students completed the course and submitted a total of 7,093 ideas as part of the challenge which culminated in a high-level ceremony with state ministers of Education, ICT and Industries awarding the 25 finalist teams.

Large data sets and user feedback were collected during this pilot phase. Bugs were fixed, processes were optimized, and significant improvements were made to the platform through the development of additional features and an in-depth review of the curriculum. The revised version of the SIC platform represents the culmination of a substantial investment from UNICEF in terms of financial resources allocated but also in terms of the integration of the experience, knowledge and lessons learned which are embedded into the revised version of the platform which will be used in this proposal.

3. PURPOSE

In this context, the UNICEF Regional Office of South Asia (ROSA) in collaboration with the Innovations portfolio is looking for an institution that can work with its Evaluation Team to conduct a process evaluation of the UNISOLVE Adolescent Skills Employment initiative that is currently being implemented in a number of states in India. With this contract UNICEF seeks to promote technical knowledge and innovative practices in evaluation within the organization and build its technical capacity, by benefiting from existing outside technical expertise.

The overall objectives of this process evaluation are:

- Provide an independent assessment of SIC regarding its relevance, effectiveness, coherence, and sustainability for achieving its set activities and outputs towards the delivery of youth learning outcomes.
- Identify the factors and conditions which could contribute to differential effects on the project's uptake and effectiveness.
- Assess challenges faced and lessons learned in implementing SIC in Telangana.
- Provide recommendations on changes needed in the continued implementation of SIC in Telangana, and for its roll-out to other Indian states and other countries in South Asia.

This exercise will seek to answer the following **overarching questions:**

1. How appropriate is the program in terms of content, accessibility, and user-friendliness vis-à-vis the students' needs, interests, and capabilities? (RELEVANCE)
2. What is the nature of stakeholder collaboration, and how has it influenced program implementation? (COHERENCE)
3. To what extent, and with what results, has the program delivered its key activities and desired outputs? For whom and why? Is the program adequately working towards its outcomes and goals? (EFFECTIVENESS)
4. What lessons learned and recommendations can be drawn from program implementation to uphold its sustainability and inform future programming (including potential upscaling and replication)? (SUSTAINABILITY)

Considering the nature of a process evaluation, not all OECD DAC criteria will be analyzed in this assessment. The primary emphasis will be on relevance, coherence, and efficiency, while effectiveness and sustainability will be evaluated, when possible, but they are not the primary focus of this process evaluation.

4. METHODOLOGY

The formative evaluation will adopt a **mixed-methods approach**, with

- a main **qualitative** component based on focus group discussions (FGD) with participating students and key informant interviews (KII) with relevant stakeholders (see Table 1), and
- a small **quantitative** component based on descriptive analysis of secondary data generated by the project, including pre and post survey.

5. SCOPE

Key aspects of the process evaluation scope are summarized in the following table:

Area	Scope
Thematic	The evaluation will explore both the effects and processes resulted from implementing the UNISOLVE programme in Telangana (India), with a focus on activities and outputs achieved towards the delivery of youth learning outcomes, effectiveness of the processes involved at all stages of programme implementation, as well as on challenges and lessons learned. As such, feedback from students, teachers, principals, and other key stakeholders involved in design and implementation will be a key part of this evaluation, in order to inform the continued implementation of UNISOLVE in Telangana, as well as for its roll-out to other Indian states and other countries in South Asia.
School	The process evaluation will target a subset of participant schools, which will include approximately 30 schools selected based on an agreed-upon set of criteria.
Timeframe	The process evaluation will look at the full programme cycle of the intervention.
Geographic	This process evaluation will target a subset of the schools where UNISOLVE is implemented. While the quantitative component of the evaluation will conduct descriptive analysis of data from pre- and post- tests conducted in all schools, the qualitative and central component of this evaluation will collect primary data from a total of 30 schools across four districts of Telangana. The selection of the schools will aim to ensure heterogeneity and compare potential differential effects on the project's uptake and effectiveness (see Sampling Strategy and Data collection tools). Additional interviews will be conducted at district and national level with other key stakeholders.
Participants	Participants will be selected using purposive sampling. Participants will include key stakeholders involved in implementing of the intervention, both inside and outside of UNICEF, relevant national-level and sub-national level stakeholders. It will also include students, teachers and school administrators.

TABLE RESPONDENTS			
Level	Participants	Tool	
		Type	N.
National	UNICEF staff	KII	3
	Telangana State Innovation cell	KII	2
	Principal Secretary Commissioner DOE	KII	1
	Principal Secretary, DoIT	KII	1
District	DSOs (1 per district)	KII	5
	Students whose projects were shortlisted (1 per district)	KII	5
	Member of the jury (one per district)	KII	5
School	School Principal	KII	30
	Focal teacher	KII	30
	Students (1 FGD per school - 8 students)	FGD	30
Total tools			112

6. USE AND AUDIENCE

This exercise has the potential to offer timely insights on different levels. Primary users will be the UNICEF management at the India country level, UNICEF at regional level and key national partners.

7. MANAGEMENT AND RESOURCES

The Regional Evaluation Advisor will supervise the assignment and approve the deliverables. Regular coordination is expected to be done with Indian Country Office.

An Evaluation Reference Group (ERG) will be created. It will consist in a mix of UNICEF ROSA and country levels managers and advisors as well as representative of key national partners. The ERG will serve as an advisory organ, providing substantive technical inputs, facilitating access to documents, and ensuring the high technical quality of the products as well as organizational learning and ownership of the exercise.

8. KEY DELIVERABLES

This section describes in detail the expected outputs and results of the consultancy:

- An **inception report** that presents the complete methodology approach to conducting the work, with all tools fully drafted. The inception report needs to contain a detailed and agreed evaluation matrix. It needs to present the key results of the desk review and a refined of stakeholder mapping. All design issues under discussion to that point are to be answered, any revisions to the issues and questions, and issues of reference group role and supervisory quality assurance.
- **PowerPoint with preliminary findings** for discussion and validation.
- **Final Report** with key findings, conclusions, recommendations and lessons learned. An outline will be provided.
- **Final PowerPoint:** A visually compelling presentation to provide an evaluation brief for key stakeholders as well as the participation of the consultant to the final debriefing.

Important notes:

- The final report needs to include actionable recommendations that can be used to formulate concrete management response.
- Monitoring deliverables about work progress are not listed but will be periodically required.
- Page limits, if any, to be established during the inception period. In general, there will not be artificial limits, but the report should aim for conciseness, readability, and visual appeal.
- The format of the final deliverables will be decided in the inception period. A high value will be placed on products that communicate well with different audiences. Thus, infographics, PowerPoints, and other products may be fully integrated into the reports or may be proposed as complementary end products.
- Transcripts, recordings, or interview notes need to be collected and/or prepared for all interviews and focus groups.
- Deliverables must be in professional-level standard English, written in a concise, clear and easy-to-understand language, and comply with the most recent UNICEF Style Book and the UNICEF Brand Book. PowerPoint presentations should include notes below each slide to make them easy to understand for people who could not attend the sessions where the presentations are utilized.
- The final report is expected to meet the UNICEF-adapted UNEG Evaluation reports standards, benchmarks used in UNICEF's Global Evaluation Reports Oversight System (GEROS) and integrated norms and standardsⁱ. The process evaluation should also abide by UNICEF evaluation practices and standards, particularly around ethics, gender equity and integration of disabilityⁱⁱ.
- The final report that will be made available on the UNICEF and disseminated to key stakeholders. UNICEF will have copyright of the report, presentations and data collected. However, the members of the selected team and their roles and products will be acknowledged in the report.

ⁱ UNICEF's procedure on ethical standards in research, evaluation, data collection and analysis (2021)

ⁱⁱ Ethical Guidelines for UN Evaluations, UNICEF Guidance on Gender Integration in Evaluation, Integrating Human Rights and Gender Equality in Evaluation, UNEG Guidance on Integrating Disability Inclusion in Evaluations

9. QUALIFICATIONS

This contract will be awarded to a single institution using a single source approach. ROSA is seeking to recruit the Center for Evaluation and Development (C4ED). The Center is conducting similar evaluations, funded from the Innovations fund in ECARO.

Profile of the Evaluation Team: The Team will be composed by at least two professionals as long as they have the capacities listed below. The team can also add research assistant/analysts, when needed. The team will have the following expertise:

1. Expert(s) in qualitative evaluation. Specific expertise in process evaluation is required to assess
2. Experience in conducting evaluation in India and/or the South Asia region
3. Experience in conducting evaluations and research in the area of Adolescent Skills and Employability.
4. Proven experience in facilitating and collecting information from youth and similar populations
5. Ability to communicate findings to non-technical audiences including the capacity to apply user-friendly data visualization techniques, using open-source means.
6. Knowledge or capacity to understand adolescent skills training and programmes including the measurement of impact of soft skills
7. Ability to understand the implementation and policy contexts of the hosting institutions and states.
8. Fluency in spoken and written English of all members of the team;
9. Proof of capacity to present and write reports clearly and concisely.

Team Leader A team leader must be named. She/he will direct all parts of the effort. The leader will be the person accountable in the organization's name to UNICEF. The leader will coordinate and supervise the work all teams or persons of the organization in their contributing roles. She/he will ensure the quality of the process, outputs, methodology and timely delivery of all products. The team leader will take direct responsibility for all deliverables.

10. ETHICAL CONSIDERATIONS AND NORMS AND STANDARDS

The evaluation must be in line with the United Nations evaluation norms. Following UNICEF requirements for evaluations, the evaluation will be external and independent and will be carried out in an objective, impartial, open and participatory manner, based on empirically verified evidence that is valid and reliable. The ethical principles that will guide the evaluation are independence, impartiality, credibility, responsibility, honesty and integrity. Similarly, it is essential for the evaluation team to maintain respect for the dignity and diversity of the individuals participating in the evaluation, and to take into consideration respect for human rights, gender equity and equality throughout the evaluation process.

The team will take the appropriate measures to preserve the confidentiality of information and data of the individuals involved, while respecting the right to provide information in confidence. When obtaining information from minors, it is essential that the evaluation team refer to the UNICEF guidelines, Ethical Research Involving Children; and Children and the Data Cycle: Rights and Ethics in a Big Data World.

It is also necessary to minimize the risks associated with any possible negative consequences and maximize the benefits for the main stakeholders by foreseeing unnecessary harm or injury that may arise from the findings of a negative or critical evaluation, without compromising its integrity. The evaluation must also comply with UNICEF Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis and Ethical Considerations when Using social media for Evidence Generation. In its methodological proposal, the evaluation team should clearly indicate any possible ethical issues and specify the supervision and the ethical review mechanisms of that are applicable to the evaluation process.

All data collection tools and protocols will undergo an external ethical review.

The evaluation will abide by the following norms and standards:

- United Nations Evaluation Group (UNEG) Norms and Standards for Evaluation in the UN System, 2016
- [UNICEF Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis](#), 2015
- UNEG Ethical Guidelines for Evaluation, 2008

The integration of gender equality and human rights in evaluation are an important norm as part of UNICEF evaluation practice. UNICEF evaluation practice follows UNEG guidance on integrating gender equality and human rights.

The final report is expected to meet UNICEF-adapted UNEG Evaluation Reports Standards as well as benchmarks used in UNICEF's Global Evaluation Reports Oversight System (GEROS).

11. DURATION AND TIMELINE:

A total of seven months from preparation to finalization is envisaged for the whole process evaluation:

Activity	Time Estimate
Inception	
Onboarding of the consultants	February 2023
Submission of the draft Inception Report	March 2023
Data collection tools received ethical clearance	March 2023
Data collection	
Field visits	March-April 2023
Presentation of preliminary findings	May 2023
Reporting and dissemination	
Analysis and reporting	May-June 2023
Validation workshop and presentation of findings, conclusions and recommendations	July 2023
Submission of the draft report	July 2023
Revision and submission of the final report	August 2023

Due dates may shift due to unforeseen circumstances and with agreement of the supervisor/manager without need for amendments as long as the overall fee remains the same.

12. WORKING LOCATIONS:

The base of work will be the premises of the consultant, utilizing information acquired remotely during the inception and report writing stages. A trip to the field is envisioned for data collection. The timing of the visit will necessarily consider travel options.

13. PROPOSED PAYMENT SCHEDULE

Deliverables	Percent payment
Final approved Inception Report and data collection tools	35 %
Presentation of preliminary findings and provision of KII and FGD notes	25 %
Final approved report and presentations	40 %

- The consultant will be paid upon satisfactory completion of assigned tasks and receipt of key deliverables and as certified by the UNICEF ROSA.
- UNICEF reserves the right to withhold payment or partial payment for deliverables that are of poor quality or that do not meet the deadline stated in the contract.
- If deliverables are submitted before the end of the contract, payment will be processed.
- The final payment will be processed within 30 days of the expiry date of the contract upon confirmation of satisfactory delivery of services.

