



**August & September 2023**  
Bi-Monthly Report

Date of submission: 5th October 2023

Prepared by:  
STEAM Policy Unit  
Ministry of Federal Education & Professional Training  
Government of Pakistan

## Table of Contents

<b>Executive Summary</b>	<b>2</b>
<b>Project update</b>	<b>4</b>
<b>Learning</b>	<b>4</b>
<b>STEAM Safer</b>	<b>14</b>
<b>Policy Deliverables</b>	<b>15</b>
Sindh	15
Gilgit-Baltistan	15
Punjab	16
Federal	17
<b>Partnerships</b>	<b>18</b>
Partner’s Celebration Event	18
University Partnerships	18
Corporate Partnerships	21
Partnership with NPOs	23
<b>Communications</b>	<b>24</b>
Strategies and branding	24
Social media	24
<b>Program Management</b>	<b>27</b>
Additional resources	27
Head teacher engagement	27
Meetings with stakeholders	27
Gender audit / strategy	28
Monitoring and evaluation	28
Monthly stocktake meeting	28
Changes in reporting regimes	28
<b>Challenges and Mitigation Strategies</b>	<b>30</b>

## Executive Summary

STEAM Pakistan is a multi-strand project aimed to improve STEAM education through a phased approach. Its expected outcome is to improve STEAM learning for 5 million students, build the professional capacity of 100,000 teachers and revamp 13,000 high schools all across Pakistan in the next 5 years.

Major milestones achieved during the months August and September 2023 include:

- STEAM Pakistan partner schools have successfully reached the milestone of completing 1000+ STEAM Club activities
- 1,170 STEAM partner schools have signed up for the program as of 30th September
- 1,363 students from 42 schools from Karachi, Lahore and Islamabad were engaged through various STEAM Pakistan corporate and university partners in the form of Safer sessions, math circles, and STEAM Club Activities.
- Orientation sessions were held in Sindh and Islamabad with 202 teachers and head-teachers from 147 government schools. Additionally, 7 virtual activity-specific refresher sessions were held with a total of 192 teachers attending.
- A 3-day capacity building content and lesson planning workshop, covering math and science for middle school, with teachers from 135 FDE schools covering all 6 sectors of Islamabad.
- Head teachers from 25 government schools in ICT were trained on a classroom observation tool to enable them to monitor and help teachers improve pedagogical practices.
- Starting September, STEAM Pakistan has partnered up with Pakistan Science Club to engage partner schools in a monthly challenge to solve an exciting math or science problem each month till May 2024, excluding a break in December 2023 and March 2024. 100 schools will be selected for participation each month with rewards for shortlisted student winners.
- As part of technical support to the School Education Department (Gilgit-Baltistan), STEAM Pakistan analyzed 5th and 8th grade centralized examination results of 30,315 students from 1500+ schools.
- Reckitt, a multinational FMCG and a new STEAM corporate partner, developed and implemented an intensive 3-day STEMForward initiative for girls from 24th to 26th August. 10 girl students from partner government schools in Karachi were chosen through a rigorous selection process to participate in the program. These students engaged in a host of activities led by women in leadership positions at the Reckitt headquarters and factory.
- Pakistan Cables sponsored STEAM Pakistan's first STEAM Safari visit, a highly motivational and encouraging field trip to TDF MagnifiScience Center in Karachi for 61 girls from the programme's recently most active school in Sindh.

- A Partners' Celebration event (16th August) was held in collaboration with the Pakistan Business Council in Karachi to appreciate the existing partners, along with engaging prospective partner organizations. The event included various partners sharing their experiences with the program with three of them receiving awards.
- LUMS, STEAM Pakistan's active partner has planned an expansion of the Maths Circles initiative to regions beyond major cities in Pakistan. These will be longer 90+ minute sessions in collaboration with local university professors to kickstart this initiative at the local/community level.
- STEAM Pakistan and PIE will be collaborating to undertake a groundbreaking research study on a national matriculation examination result analysis. The research concept has been approved by the Secretary, MoFEPT.
- NED University has signed an MoU with STEAM Pakistan and selected 4 partner schools to initiate engagement, starting with Safer sessions led by students. Orientations for these students took place on 27th September.
- School Education and Literacy Department (SE&LD), Sindh undertook its first bi-monthly STEAM Policy Unit's stocktake on the 17th August 2023. It was led by the Additional Secretary Dr Fouzia Khan.

Moreover, the program activities and outputs are being tracked against deliverables for the purpose of monitoring and evaluation. The bi-monthly STEAM report will contain an overview of the program outputs and the challenges encountered during implementation.

## Project update

This section of the report will include strand-wise updates for the deliverables covered within the months August to September.

## Learning

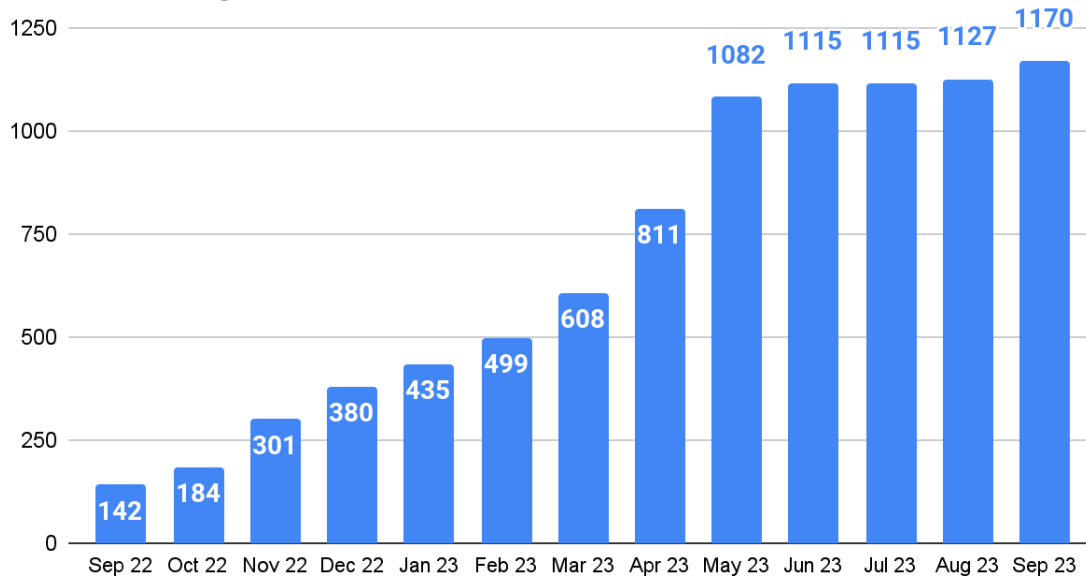
This section will provide updates on partner school's status as of September 2023 by geographical coverage, level of activities, student and/or teacher engagement, an update on training/fresher sessions, orientation sessions, and/or portal development.

**1,170 Government Schools Engaged**  
**63 Districts Covered**  
**58,115 Students Engaged**  
**70% Girls, 30% Boys**  
**466 STEAM Clubs**  
**1,228 STEAM Club Activities**

### 1. Partner Schools' Highlights

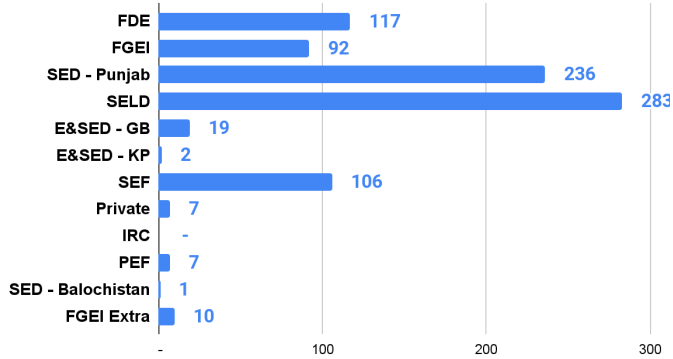
#### A. Journey to Date

No. of Schools Registered Over Time

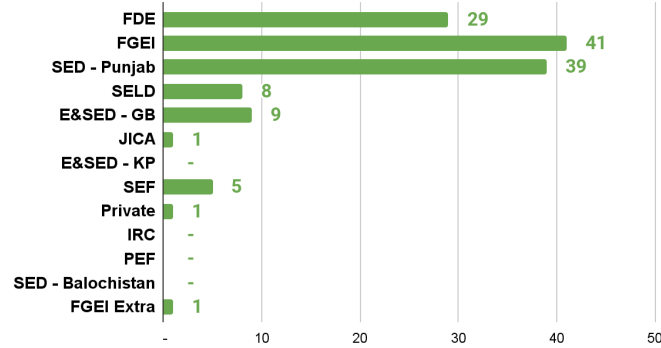


## B. Level-wise progress

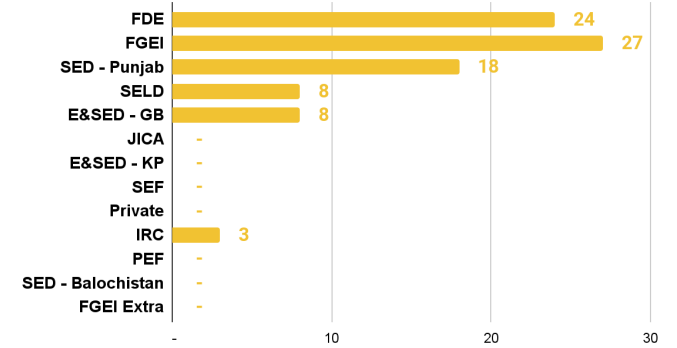
Level 1 by Institute



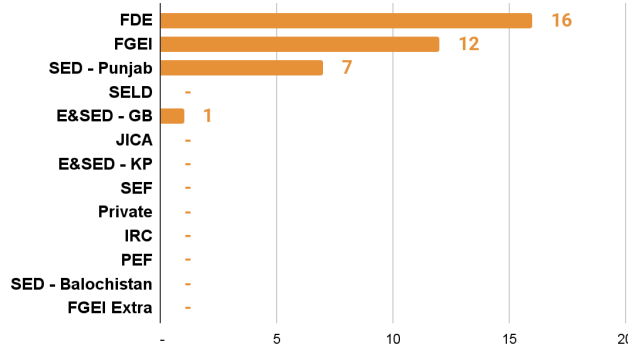
Level 2 by Institute



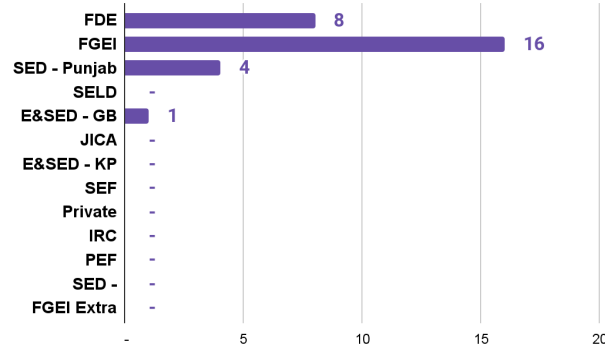
Level 3 by Institute



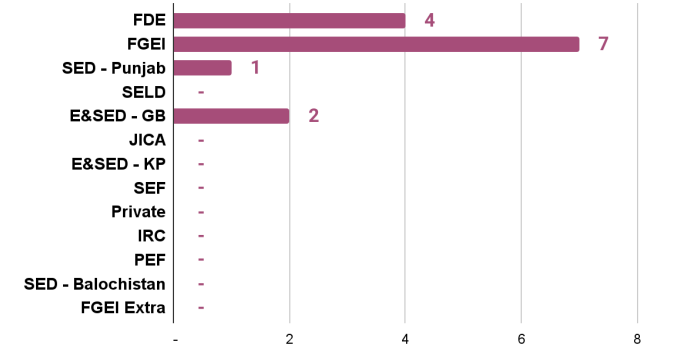
Level 4 by Institute



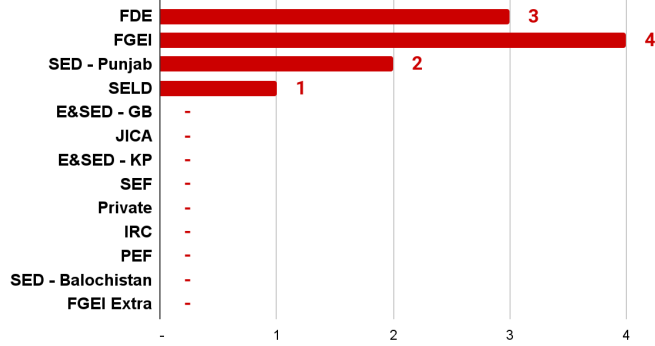
Level 5 by Institute



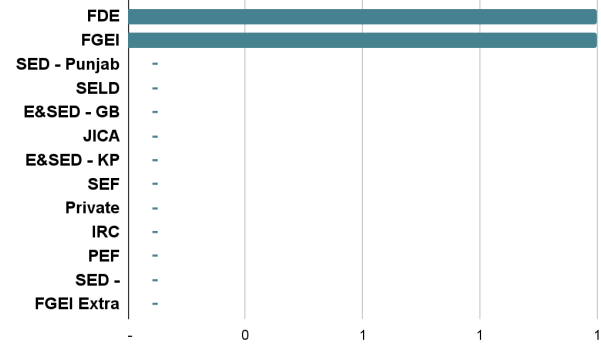
Level 6 by Institute



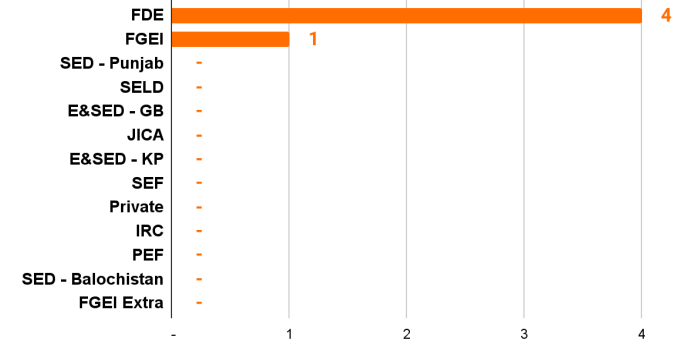
**Level 7 by Institute**



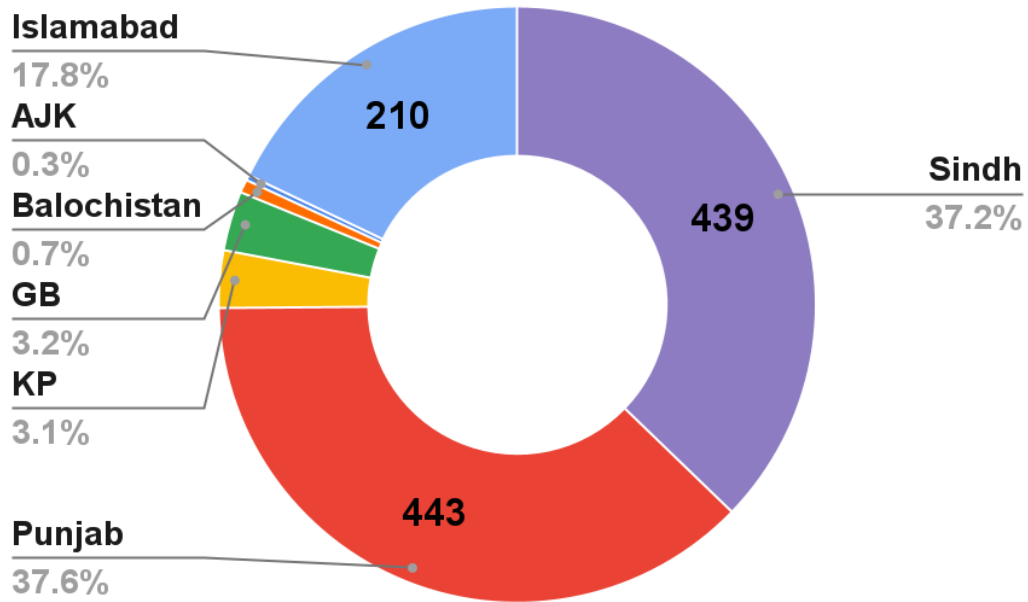
**Level 8 by Institute**



**Level 10 by Institute**

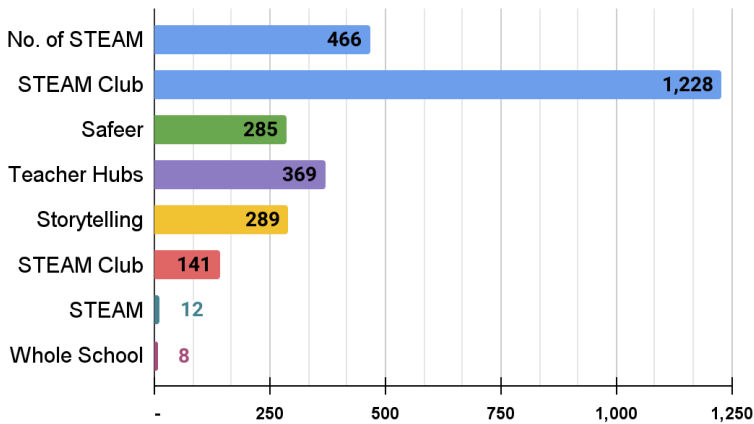


### C. Region-wise partner school distribution

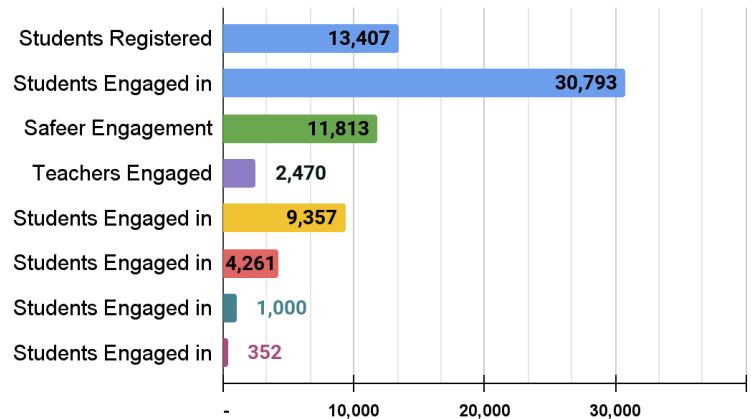


### 2. Activities in partner schools

#### Components



#### Engagements





## 2. Orientation sessions

Orientation sessions are a key feature for the newly registered schools with the STEAM Pakistan programme.

### School Education & Literacy Department, Government of Sindh

On 23rd August, a virtual orientation was held for JICA, SEF, and SELD schools. The event was catering to new schools (to be registered) and the schools which had registered on the portal but had not received a programme introduction. The event was attended by 140 participants from 115 schools from all three institutions.

### Federal Directorate of Education, Islamabad

On 15th September, an in-person orientation session was held for 10 schools previously associated with Science Fuse for the accelerated pilot programme as well as other FDE schools which had not registered yet. The notification for this session can be viewed [here](#). 32 out of 36 schools listed attended the session with participation from 62 teachers. 22 of these schools have registered with the programme by now.

## 3. Weekly refreshers

STEAM Pakistan initiated virtual weekly refreshers for all institutions starting 17th August 2023. These are optional sessions aimed at recapping various elements of the school journey as well as addressing any problems teachers might be facing in progressing further. 7 sessions have successfully been held in the months of August and September with 192 teachers participating in total. These sessions are generally held on Mondays each week from 3-4 PM. The schedules for the months of August and September can be found below:

August			
S#	Name of Session	Date	Time
1	STEAM Club + STEAM Clubs Demonstration Refresher Session	17-Aug-23	4-5pm
2	Whole School STEAM Activity Refresher Session	21-Aug-23	3-4pm
3	Storytelling Refresher Session	28-Aug-23	3-4pm
September			
4	Teacher Hub + STEAM Safer Refresher Session	04-Sep-23	3-4pm
5	One-Day STEAM Competition Refresher Session	11-Sep-23	3-4pm
6	STEAM Club + STEAM Clubs Demonstration Refresher Session	18-Sep-23	3-4pm
7	Whole School STEAM Activity Refresher Session	25-Sep-23	3-4pm

## 4. New training components

### Classroom observation tool

STEAM Pakistan in collaboration with the Federal Directorate of Education organized a training session with government school headteachers in Islamabad on 5th and 6th of September 2023. The two-day training session introduced an observation tool to help head teachers assess practices of educators in their classrooms. A total of 25 schools, out of which 16 were female schools, participated in the session. The observation tool, accessible [here](#), consisted of 8 observational indicators needed to deliver a good lesson in math and science, student assessment and a development action plan to improve teachers' pedagogical skills. A short guide for headteachers and teachers explaining each indicator and the usage of the tool was also provided as an additional resource which can be found [here](#).

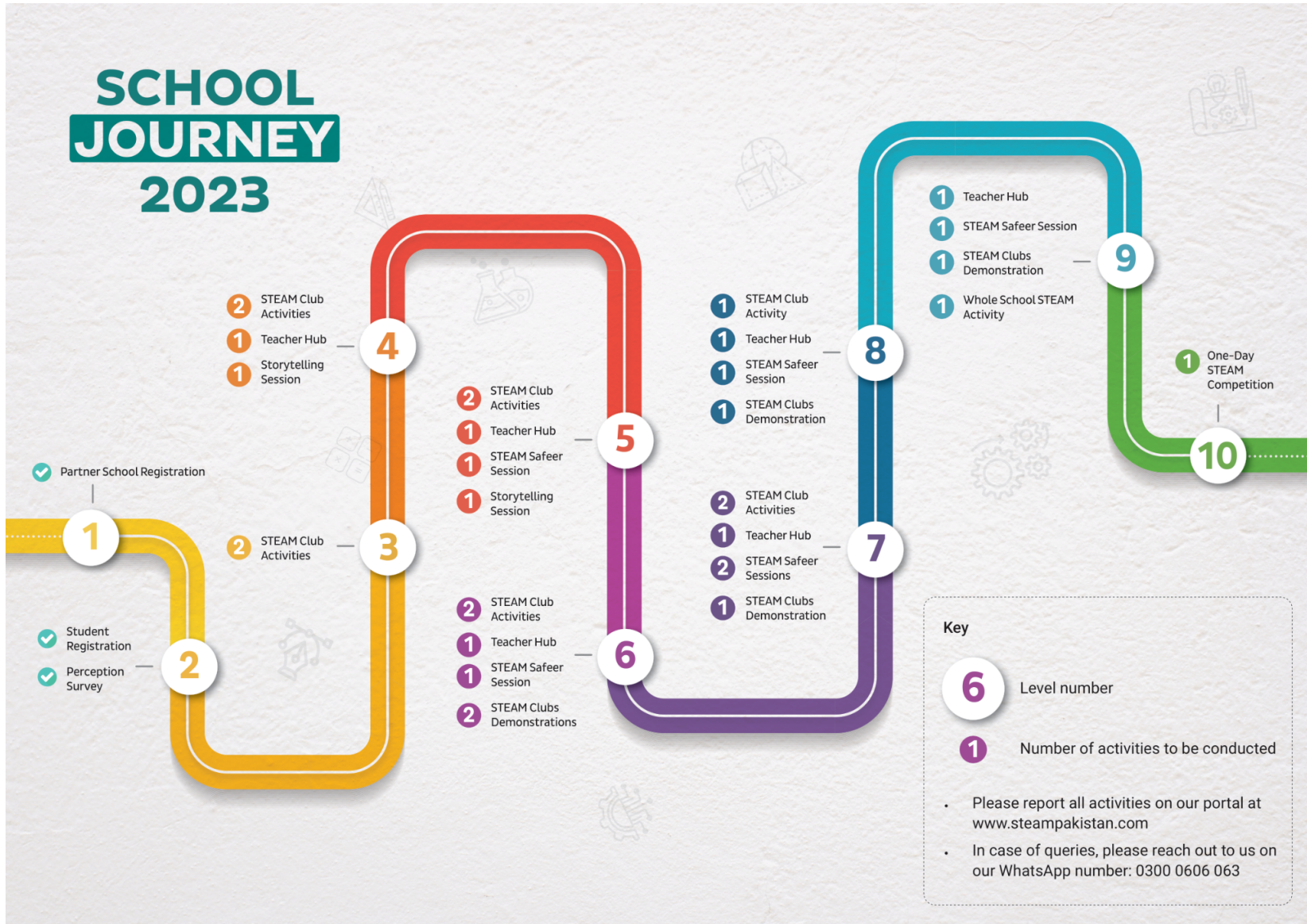
The training demonstrated how the tool should be utilized in observing lessons, identifying successes and improvements, and planning/implementing improvement actions. It therefore, aimed to equip headteachers in supporting the professional development of science and math teachers of middle school grades (6-8) through structured feedback. These 25 schools will function as a pilot, plans to expand the usage of the tool with FDE will be undertaken once the pilot concludes.

### Content & lesson plan training

3-day lesson and content planning workshops were delivered from 8th-10th August to a total of 135 participants, representing 135 schools from the six sectors of ICT. Notifications can be viewed [here](#). The content training workshop was aimed at content and pedagogy for math and science subjects for grades 6th to 8th. STEAM Pakistan shared its prepared lesson plans and took feedback from teachers by showcasing parts of the lessons. Activities in which teachers were engaged involved them brainstorming parts of the lesson plan on the spot in groups. The most appreciated aspect of the workshop by the teachers was the Q&A session, as well as being allowed to give their input and engage. A detailed report was shared for the same with FDE senior management including pictures and attendance. It can be accessed [here](#).

## 5. Revised school journey

Effective August 2023, partner schools have been following an updated school journey. The new journey was created following feedback and data from schools to ensure school administration can allocate sufficient time to the journey components within each academic year. At each level, the targeted number of components has been revised (i.e. reduced), while redundant components such as the 3-month activity calendar have been removed. Reporting templates have also been upgraded. The new journey can be viewed below.



## 6. Star Journey

The “Star School Journey” is for schools that have completed level 10 and are wondering “What’s next?”. The objective of each school will be to unlock all 5 stars (in whatever order they prefer). A star is unlocked when the tasks under ‘A’ are accomplished (‘A’ category tasks are mandatory for each star). The ‘A+’ category provides an optional challenge for schools that would like to go the extra mile. This will be in continuation of the 10-school journey. The Star Journey was rolled out on the 26th of September, with 4 schools currently on this level. This special journey can be accessed [here](#) with an explainer video [here](#).

## 7. Art component

As part of STEAM Pakistan’s partnership with Zindagi Trust, 10 art guides and videos are completed. These guides and videos will be uploaded on the portal for schools’ access, and will be embedded in the school journey. These can be viewed below.

Topic	Grade	Guide	Video Tutorial
Word Formation	6	<a href="#">Link</a>	<a href="#">Link</a>
Symmetrical Names	6	<a href="#">Link</a>	<a href="#">Link</a>
Pakistani Culture	6	<a href="#">Link</a>	<a href="#">Link</a>
Map My City (Postcard)	6	<a href="#">Link</a>	<a href="#">Link</a>
Elements of Art	7	<a href="#">Link</a>	<a href="#">Link</a>
Animal Habitat pt.1	7	<a href="#">Link</a>	<a href="#">Link</a>
Animal Habitat pt.2	7		<a href="#">Link</a>
Colour Wheel with Found Objects	7	<a href="#">Link</a>	<a href="#">Link</a>
Text Pop Art	8	<a href="#">Link</a>	<a href="#">Link</a>
Symbolic Portrait	8	<a href="#">Link</a>	<a href="#">Link</a>
Metamorphic Illustration	8	<a href="#">Link</a>	<a href="#">Link</a>

## 8. Monthly Maker Challenge (MMC)

Starting September, STEAM Pakistan partnered with the Pakistan Science Club to engage partner schools in a monthly challenge to solve an exciting math or science problem each month. The announcement posters can be viewed [here](#). The Programme will be sharing a list of 100 schools each month with them each month. This collaboration will continue till May 2024, with a break in December 2023 and March 2024. For September, the challenge was to create a

15-second machine. Winners will get made-in-Pakistan science kits from the Pakistan Science Club!

Winners from September’s challenge are listed below:

Position	School	Student(s)
First	FG Public School (Boys) Tufail Road Quetta Cantt	Obaid Ullah & Imran Khan
Second	Govt Girls High School Shalimar Town Lahore	Tooba Hamid
Third	Government Girls Elementary School Officers Colony Ghotki	Noor Fatima, Fiza, Raheela, and Fozia

These top three achievers will be honored with an "Inventor Box" as a token of appreciation for their exceptional dedication and hard work. A special mention will be given to all participants who successfully completed the challenge and each will also be receiving an E-certificate. A report was shared by the Pakistan Science Club for September which can be viewed [here](#).

### 9. Math content development

For mathematics, two documents are currently under development. The first is the Math Activity Guide. The guide has different categories, which can be seen at the beginning. It is being updated, and the first draft is in its final stages of preparation. The document is going to take the shape of one of the Math guides that will be included on the STEAM Pakistan website and also shared with teachers to help in their journeys. It has activities based on SLOs and every component needed to be a guide/handbook.

The second document is the Math/Cricket activities and thought-provoking questions related to the upcoming World Cup. It contains math questions themed in cricket that will be used for pop quizzes/quick trivias during the ongoing World Cup as they contain math found in cricket. It will be continuously updated, and content from it will also begin rolling out soon.

### 10. Knowledge sharing with QAED

STEAM Pakistan representatives met with QAED DD Ms. Zahida Batool and their master trainers, on 25th August. The purpose was to exchange training content between STEAM Pakistan and QAED, and aim QAED in importing from our work to develop better training manuals for teachers using lesson plans developed by the learning team from STEAM Pakistan.

### 11. STEAM portal

The school STEAM Portal is a platform for schools to access important resources such as guides and tutorials for school staff. Additionally, all reporting activities are performed through this portal. It can be accessed on the STEAM Pakistan website ([www.steampakistan.com](http://www.steampakistan.com)).

Along with multiple other tweaks, following are significant developments till taking place between August and September 2023:

- Additional reporting templates and guides added in both English and Urdu
- Institute-specific and district-wise accounts/dashboard have been created which will be disseminated to authorized personnel to monitor their region's/institution's schools' progress.
- School journey page was made more user friendly and intuitive

## 12. Helpdesk

A helpdesk has been set up to file queries from focal persons of our partner schools regarding STEAM journey levels, activity ideation and the portal reporting mechanism. The helpdesk is functional across three avenues of communication.

- Schools can reach out with queries over WhatsApp (0300-0606063)
- They can reach out via email at [info@mathsandscience.pk](mailto:info@mathsandscience.pk)
- Zoom helpdesk - Tuesdays and Thursdays, 10:30 AM to 11:30 AM and 3:00 PM to 4:00 PM

## 13. Analytics for existing video content

Statistics for existing STEAM Pakistan content on [YouTube](https://www.youtube.com) can be viewed below:

Months / Cumulative	Modules	Views	Hours Watched
August to September	10	7,591	188.5
Cumulative	45	25,632	653.5

## STEAM Safer

The STEAM Safer component of the program aims to inspire students and connect them with skilled professionals who use STEAM concepts on a daily basis. Through sessions, STEAM Safer exposes students to available in-school and out-of-school resources in the form of mentors who share their experiences, expertise and achievements to inspire and motivate them. Highlights for the last two months can be viewed below.

**17 Government Schools Engaged**

**30 Sessions Conducted**

**1,023 Students Engaged**

**25 Professionals**

**9 Organizations**

**9 Districts  
Covered to  
Date**

### Newsletter

The newsletter for August issued in September can be viewed [here](#). Previous monthly STEAM Safer newsletters can be accessed [here](#).

### Dedicated webpage and portal

A dedicated landing page for STEAM Safer and a back-end portal has been designed and developed. The landing page has been live at [www.steampakistan/safer](http://www.steampakistan/safer) since January 2023. Since September, the portal now also allows Saferers to opt for group sessions as well as leave a note to STEAM Pakistan. Additionally, the portal development team has been working on further upgrades to the Safer platform adding various functionalities which aim to enhance the user experience of the Safer.

### Waasta team pilot

The Waasta program is based on school facilitation through continuous engagement with the school. Currently the STEAM Pakistan team is conducting an internal pilot for this component by visiting schools and engaging them twice a month. Activities include but are not limited to ones conducted by Safer sessions.

## Policy Deliverables

### Sindh

#### Minimum Standards

As agreed in the SE&LD stocktake on 17th August, the STEAM Policy Unit will be developing the “Learning Environment and Development of Learner” volume as part of a minimum standards document based on Sindh School Education Standards & Curriculum through consultative sessions, key informant interviews, FGDs and literature review.

SE&LD’s allied institutions will be facilitating the consultative process as required. More details about the stocktake can be found in the “Programme Management” section under “Monthly stocktake meeting”.

### Gilgit-Baltistan

#### Results Analysis

The STEAM team played an important role in developing a proposal for content-based teacher training tailored for Class 5 and 8 educators in English, Maths, and Science, highlighting the importance of enhancing teaching quality and keeping these educators updated with subject advancements. The proposal was submitted to the Secretary of Education for approval in August.

Additionally, the Programme carried out a district and tehsil-wise analysis of the Grade 5 and Grade 8 centralized examination results in Gilgit-Baltistan and structured it in the form of rankings to enable decision makers to take specific actions to improve classroom learning in primary grades. Results of 17,506 students from 1,105 schools at the primary level and 12,809 students in 541 schools at secondary level were analyzed as part of this exercise. A resultant action of STEAM’S research shared with the Education Department, Government of Gilgit-Baltistan led to readjusting the structure of their formative assessment, making it more effective.

#### Formative assessment rubrics & subject-specific projects

##### Development of rubrics

The GB-STEAM team contributed to the development and finalization of formative assessment rubrics and subject-specific projects for classes 5 and 8. This was completed in August. The notifications disseminated by the Board of Elementary Examination Gilgit-Baltistan (BEEGB) for the same can be viewed [here](#).

##### Orientation

STEAM Pakistan representative served as faculty to facilitate 4 out of the 15 orientation sessions on SLO-based assessment and formative assessment rubrics for grades 5 and 8,



organized by the BEEGB for DDOs, DISs, District Focal Persons of BEEGB, ADIs, and AEOs. These orientations (completed in September) aimed to introduce the syllabus document, examination specifications aligned with the national curriculum, and the transition from textbook-based assessment to student learning outcome based assessment. The plan and notification for the orientation can be found [here](#). Glimpses from the STEAM Pakistan sessions can be viewed [here](#).

## Punjab

### Lahore Science Mela

The Lahore Science Mela (LSM) is an annual citizen science festival organized by the Khwarizmi Science Society (KSS) with its upcoming fifth edition planned on 28th and 29th October 2023 at Crescent Model Higher Secondary School, Shadman, Lahore (Boys Campus). Like the previous year, STEAM Pakistan is proud to be a partial sponsor for this event.

Lahore Science Mela 2022 had over 200 performers presenting more than 3000 unique experiments, demonstrations, and performances from various fields, and attracted over 75,000 visitors over both days. Featuring a public planetarium and a large exploratorium with live experiments, indigenous inventions, puzzles, and demonstrations, the event was well-received, attracting people from all walks of life. The Testimonials and widespread coverage of the event speak for themselves.

### Math circles

On 13th September, meetings were held with SED Punjab and LUMS in order to initiate math circles in government schools across Punjab. Babar Ali Foundation is now funding the LUMS math circles and he has pushed for these sessions to now take place beyond major cities as well. They will also be encouraging their own students to participate in these circles with the first session held on the 30th of September in Lahore. The second session is also scheduled for 6th October in Mardan. Sessions in Peshawar, Sialkot, Sukkur and Multan are being set up as well.

### SED Punjab & PMIU MoU

The Law Department has approved the MoU with PMIU, which will now be put before a standing committee for approval. The letters for the same can be viewed [here](#).

### STEM PC-1

The Secretary has approved the extension of the STEM PC-I up to 30th May 2024. The notification issued can be accessed [here](#).

## Federal

### Matriculation exam analysis

STEAM Pakistan is collaborating with the Pakistan Institute of Education (PIE), to carry out matriculation exam analysis for students registering for matriculation exams across the country via respective Boards. The study will analyse the cumulative scores, gender breakdown, analysis of assessment framework(s), and a deeper subject-wise analysis for selected Boards. The study will cover student performance in the annual board examinations from 2018-2023 across Pakistan. The purpose of this study is to enable and equip the MoFEPT to undertake evidence-based decision-making regarding school reforms, particularly at high and higher secondary school level.

Multiple meetings have taken place between PAMS & PIE to streamline the scope of the research and agree upon a responsibility matrix. PAMS and PIE will be signing an MoU to formalise the agreement and will be working together to undertake this first of its kind of an analysis in Pakistan.

### **STEM classroom observation tool for head teachers**

STEAM Pakistan facilitated the development and initial delivery of a classroom observation instrument for head teachers in FDE schools. The goal is to enable head teachers to conduct periodic observation and guide teachers in very specific areas (content, pedagogy, assessment, classroom engagement and others). This tool and its pilot in 25 schools currently will help inform FDE's monitoring and evaluation regime. Based on input from the pilot schools, the tool will be revised, with an interest from FDE to scale it to the remaining schools. More information on operational delivery of the pilot can be found in the learning section of the report.

## Partnerships

### Partner's Celebration Event

STEAM Pakistan in collaboration with the Pakistan Business Council's Center of Excellence for Responsible Business, hosted a Partners' Celebration event on 16th August to appreciate the Programme's corporate and university partners. Pakistan Cables was recognised as Corporate Partner of the Year, IBA Karachi as University Partner of the Year, and Maths Circles by LUMS as the Partner Program of the Year, with each of them presenting their experience working with government schools and sharing the potential impact of corporate and university partners engaging with students from the public sector.

The event was attended by STEAM Pakistan's current partners as well as prospective corporate entities looking to make a meaningful contribution towards STEAM education in the public sector, with attendance from representatives of Engro Foundation, Engro Polymer and Chemicals, SICPA, TPL Corp, Reckitt, GetzPharma and TDF Magnificience Centre, in addition to Pakistan Cables, LUMS, and IBA Karachi. Development partners from FCDO were also in attendance. Additionally, Malala Fund board member Akhtar Mateen was also present and shared his vision for the potential of the corporate sector in transforming schools. 16 representatives from various organizations and universities were present. The social media post including pictures from the event can be viewed [here](#).

### University Partnerships

#### Overview

To date, STEAM Pakistan has signed LoU with a total of 12 universities and successfully on-boarded 15 other universities. 8 universities are actively conducting STEAM activities with their partner schools in various regions of Pakistan. An LoU is expected to be signed with the remaining universities, with NUST, COMSATS, Bahria University Karachi, and Habib University Karachi being in the highlight.

#### IBA Karachi

Following the success of the Math Summer camp held from July to August, discussions were held with senior management at IBA Karachi to chart out future plans. Tentative schedules and dates were shared for various events. Moreover, IBA Karachi plans to conduct math circles through students as well moving forward and have appointed a focal person designated to specifically oversee this component. Additionally, conversations were held regarding increasing admissions in the university's newly initiated BS. Mathematics program in the long term.

#### Habib University Karachi

STEAM Pakistan, on 31st August, was invited to speak to a research seminar on education taught at Habib University, where the Lead, STEAM Policy Unit Sindh presented the programme and its vision to the students, sharing areas to explore through research. Furthermore, the

faculty at Habib University shared that their students can opt for an internship with STEAM Pakistan in lieu of a final year project. With regards to signing an MoU, Habib University's leadership is in the process of finalizing funding requirements and sources from relevant departments and offices at the university.

### **Indus Valley School of Art and Architecture (IVSAA)**

Following the first collaboration of IVSAA with STEAM Pakistan through a summer art programme for 2 government school students, a preliminary discussion was held with several professors of the university. IVSAA was also invited to the STEAM Partner's celebration event. Follow-up conversations will be held in the coming months to finalize a partnership.

### **Lahore University of Management Sciences (LUMS)**

Syed Babar Ali, founder of LUMS, has shown keen interest in math circles. He wishes to expand them beyond major cities. Mr. Ali has committed an initial investment of 2-3 million PKR. The purpose of this fund would be to fund the transportation of faculty members to areas where these math circle sessions will be conducted. Professors traveling to these locations will also be collaborating with local university professors to galvanize this initiative at a local level. These sessions will also be in a longer 90+ minutes format. STEAM Pakistan will be overseeing the coordination process with schools. Within Lahore, LUMS students will also be conducting these sessions. Additionally, LUMS has also shared its internal math circles schedule which can be found [here](#).

### **NED University**

NED has signed an MoU with STEAM Pakistan accessible [here](#). Leading up to the MoU, NED was invested in the process of finalizing partner government schools, all of which are not in the vicinity of the university. They will soon be starting Safer sessions led by their students with an orientation session held for them virtually on 27th September by STEAM Pakistan. NED also plans to conduct a baseline evaluation as well as a post intervention evaluation to assess the impact of their interventions through STEAM Pakistan.

### **UET Lahore**

The STEAM Pakistan team met Dr. Irfan Chaudhary at UET following an introduction by Pakistan Cables. The team presented the Programme's university partnership component and the professor was familiar with all the aspects given his experience both as a student at MIT and as the founder of a school (Maktab) that centers effective science teaching. He suggested an MoU be signed with the department instead of the university due to administrative hurdles. He was passionate about science and math teaching in schools being experiment and proof led and also shared the initiatives that UET has already taken regarding STEAM outreach to schools, similar to Safer sessions and science demonstrations. UET is also building a makerspace for middle/high school students for which selected students are volunteering.

## Updates on activities in universities

A major element of university partnerships is the range of activities that they undertake. These activities are designed to cultivate a close relationship between higher education institutions and schools. These could take the form of math circles, teacher baithaks, Safer sessions, university tours, field trips, boot camps and so on. For the months of August and September, the following activities took place.

### Math Circles & STEAM Club Activity

6 math circles and 1 STEAM club activity were conducted in the months of August and September. The details can be found below.

Math Circles					
Date	University Partner	School	Session Lead(s)	No. of Students	Link to highlights / Details
30-Sep-23	LUMS / IBA Karachi	CMS Saddar	Dr. Adnan Khan Dr. Shabana Nisar	90	<a href="#">Link</a>
28-Sep-23	LUMS	IMCG F-5/4 & IMCG Chattabakhtawar	Sr. Ali Asher Zaidi	60	<a href="#">Link</a>
22-Sep-23	LUMS	N/A	Dr. Abu Bakar & Dr. Shaheen Nazir	40	<a href="#">Link</a>
02-Sep-23	LUMS / IBA Karachi	Govt Girls Secondary School President House	Dr. Adnan Khan Dr. Shabana Nisar	30	N/A
25-Aug-23	LUMS	N/A	Shaheen Nazir & Imran Anwar	15	<a href="#">Link</a>
16-Aug-23	IBA Karachi	Govt Girls School Neelam Colony	Dr. Shabana Nisar	30	<a href="#">Link</a>
STEAM Club Activity					
Date	University Partner	School	Session Lead(s)	No. of Students	Link to highlights / Details
12-Sep-23	Federal College of Education	IMCG I-8/4	<u>Lecturer:</u> Ms. Sadaf Pirzada <u>Students:</u> Ehtisham Raziq, Hanzallah Saeed, Eman Javed, and Nasreen Zahra	30	<a href="#">Link</a>

## STEAM Safari

The STEAM Policy Unit inaugurated the STEAM Safari program with an exciting trip to TDF MagnifiScience Centre, a state-of-the-art science museum for all ages in Karachi. Under this initiative, students from the Programme’s most active schools as judged by progress in the STEAM School Journey will be taken for educational field trips.

For September, Government Girls Secondary School P&T Colony won the award and got to explore the wonders of science, math, arts, and technology. 61 of 6th to 8th grades were accompanied by their HM Kausar Parveen, and her hard-working science and art teachers. Together, they explored the invigorating and engaging exhibits the Centre had to offer, such as optical illusions, wind turbines, an earthquake stimulator, fascinating models on human anatomy, games like the Tower of Hanoi and Pythagoras theorem puzzles in math and even an interactive digital street map of Karachi. Glimpses from this visit can be found [here](#). The participating students presented their experience to their schoolmates in the morning assembly so that the entire school could benefit from the learning and be inspired by the same to pursue STEAM.

Currently active for Sindh schools with a hope to expand to other regions, the STEAM Safari program opens doors for top-performing partner government schools to treat their students to an exciting and educational field trip. For SE&LD schools in Sindh, each month, one school from Karachi will be chosen to go on an enriching field trip as a reward for being the most active school of the month as demonstrated by their progress in the STEAM School Journey. This has been made possible through a sponsorship by STEAM Pakistan’s corporate partner, Pakistan Cables.

## Corporate Partnerships

### Reckitt

An MoU was signed with Reckitt in September for the STEMForward Program accessible [here](#). The days of 24th, 25th, and 26th August brought inspiration and impetus to the 9th class schoolgirls of 6 Sindh government schools. Reckitt Pakistan launched for them the exciting STEMForward Program in collaboration with STEAM Pakistan.

Reckitt’s women in STEM—engineers, chemists, supply chain and quality managers gave them a peek into their lives. They broke down Reckitt’s entire scope of business to show the girls how STEM professionals work in different departments, and deliver its brands, like Dettol and Mortein, to their houses. Their animated storytelling brought the career dreams of these schoolgirls to life! The relatable narratives—struggling as a woman in a man’s world, traveling long distances in public transport, and even baking cakes—made their aspirations realistic and achievable.

They also designed a game of mass-player Jenga that illustrated the idea of ‘center of gravity’. Not only were the students engaged in challenging play but also in a visual, hands-on, understanding of how the center of gravity changes as the height of an object is increased while the mass remains the same.

With Reckitt, STEAM Pakistan launched a video-making competition that put the schoolgirls’ creativity, communication skills, and love for science to test. The winners for the contest were promised a 3-day excursion of the Karachi manufacturing and managing offices of one of the most-trusted home and hygiene companies of the world, Reckitt.

270 schoolgirls attended outreach sessions in their schools by Reckitt who invited them to apply to the program through a form which required them to create and share a video on their motivation and interest in pursuing STEM along with their favorite technological invention.

The STEAM Policy Unit, Sindh, received 40+ exceptional applications and selected the top 10 extraordinary finalists exhibiting significant creativity and passion: Rida Ayaz and Rafia Abdul Haq (GGSS P&T Colony), Umme Hani Nadeem and Ayesha Yousuf (GGSS SMB Fatima Jinnah), Hafsa Sultan and Areena Yousuf (GGSS Gizri), Areesha Irfan and Maheen (GGSS Haji Wali Muhammad Jan Lyari), Sawera Zahid (GGSS Neelum Colony), and Suhana Soomro (GGSS President House).

Reckitt STEMForward was a transformative three-day journey, extending a warm invitation to young girls from public schools in Sindh, Pakistan. This remarkable initiative led them to the heart of Reckitt, encompassing both the factory and head office. Throughout their visit, these budding scientists and innovators were not mere spectators; instead, they were actively involved in immersive, hands-on activities directly related to Reckitt’s products. The students had a unique opportunity to witness the intricate workings of the factory production lines, gaining invaluable insights into the world of manufacturing and technology.

As a grand finale, parents were welcomed on the last day at the head office, where they had the chance to participate in their daughters’ career vision boarding activity. This event was not only a showcase of the students’ achievements but also a testament to Reckitt’s commitment to fostering the future of STEM, culminating in a heartfelt certificate distribution ceremony. Through Reckitt STEM Forward, young minds were inspired, dreams were ignited, and a promising future in science and technology was embraced. The participating students presented their experience to their schoolmates in the morning assembly so that the entire school could benefit from the learning and be inspired by the same to pursue STEAM.

Highlights from Reckitt’s engagement can be viewed [here](#).

## **Pakistan Cables**

In line with the “70 at 70” campaign commitments, an orientation for the next cycle of Safer sessions was held on 25th September. Sessions have already been initiated through employees who have been oriented earlier. Additionally, with the help of Pakistan Cables, STEAM Pakistan launched its new university initiative, the “STEAM Safari”. More details from this component can be viewed under “Update on activities in universities” in the “University Partners” section. Pakistan Cables fully sponsored the first visit taking place in September. One such trip each month will be supported by Pakistan Cables till December after which continuation possibilities will be explored.

## **Interloop**

STEAM Pakistan representatives met with Interloop’s chairman and founder on 25th September in Faisalabad. He showed interest in the programme. The Safer component was pitched while also discussing other areas where the Programme needs investment and support. They agreed on starting with one component and building from there. Follow-up discussions will be held in the coming months to finalize a partnership agreement.

## **Engro Polymers and Chemicals**

Engro Polymers and Chemicals were onboarded in August as STEAM Pakistan partners. An orientation was given to their team after which the organization has initiated Safer sessions, including several sessions by senior managers. They have also shown interest in doing a Waasta-like engagement with schools.

## **Partnership with organizations working with children with disabilities**

A meeting is scheduled between STEAM Pakistan and the Karachi Down Syndrome Program (KDSP) management in the first week of October 2023 to finalize next steps. With a new CEO as well as a Head of Education now settled in their positions at KDSP, the team reached out to follow-up on the conversation with their respective predecessors.

## **Partnership with NPOs**

### **Zindagi Trust**

As part of the MoU signed with Zindagi Trust for 10 art guides and 10 complementing videos, all the guides and videos have now been shared with STEAM Pakistan. These will be uploaded on the STEAM portal and also be shared with schools for their art programs. For the advocacy-related items in the MoU, further discussions will be held in the coming months.



## Communications

This section highlights social media developments, the progress made in creating strategic plans, expanding communications guidelines for programme impact and visibility.

### Strategies and branding

#### Earned media and influencer plans

The earned media plan has been submitted for internal review in August week 3. This plan has been integrated into an overall communications plan with a cross-cutting approach for meeting all the requirements in the logframe. The reasoning for this approach being that outputs are interlinked, and are integral to conducting activities in other sections. The plan is subject to review and will be finalized after inputs from the baseline study and gender strategy.

#### Branding and visibility

Co-branded collateral was developed for the programme’s activities with partners that include the Reckitt STEAMForward programme, and the new STEAM Safari initiative, which can be viewed [here](#).

## Social media

### Statistics

August and September have seen strong growth on LinkedIn and Instagram, where followers have increased by 87% and 7%, and engagement by 55% and 74% respectively.

Below are the social media analytics for the months of August and September 2023:

Platform	Posts	Stories	Accounts Reached / Profile Visits / Reactions	Engagements / Impressions	Followers	New Followers	Sample Post
<a href="#">Facebook</a>	49		13.8K	12.4K	4,057	197	<a href="#">Link</a>
<a href="#">X (Twitter)</a>	55		N/A	25.2K	817	77	<a href="#">Link</a>
<a href="#">Instagram</a>	45	20	6.3k	22.4K	1,505	157	<a href="#">Link</a>
<a href="#">LinkedIn</a>	35	-	452	8.5k	1,764	794	<a href="#">Link</a>
<a href="#">Threads</a>	1	-	-	-	169	32	<a href="#">Link</a>

Platform	Unique Visits	Total Visits	Hits
<a href="#">Website</a>	8,284	12,431	488,943

Moreover, STEAM Pakistan events and activities were covered on all platforms, including:

- STEAM Partners Celebration organized by the Pakistan Business Council
- Maths Circles in Lahore, Karachi, Islamabad
- Reckitt STEMForward initiative
- Content training and lesson planning workshops organized by STEAM Pakistan
- Pak Science Club Monthly Maker Challenge collaboration
- Numerous STEAM activities conducted within partner schools.

### Notable follows

Influential personalities/public figureheads who have followed STEAM Pakistan in the months of August and September are highlighted below:

Name	Role	Organization / Entity	Profile
Mahim Maher	Editorial consultant, ex-journalist	AKU Pediatrics, previously Express Tribune, Daily Times	<a href="#">Link</a>
EU Pakistan	Official Page	EU Pakistan	<a href="#">Link</a>
Noorena Shams	Squash player, member sports committee Government Of Khyber Pakhtunkhwa	PSA World Tour	<a href="#">Link</a>
Izhar Hussain	Deputy Director ORIC	Sindh Higher Education Commission	<a href="#">Link</a>
Hajra Farooq	Materials Planner	Reckitt	<a href="#">Link</a>
Mariyum Hasany	R&D Assistant	Reckitt	<a href="#">Link</a>
Naval Vaswani	Board Member and Head HR committee	Thardeep Micro-finance Bank	<a href="#">Link</a>
Abdul Rauf	Founder/President	Pakistan Science Club	<a href="#">Link</a>

### Driving conversations

This section covers conversations about STEAM Pakistan led by influential personalities. Below are social media posts made by such corporations in August-September:

Name	Role	Organization	Link to Post
Reckitt	Official Page	Reckitt	<a href="#">Link</a>
Pakistan Cables	Official Page	Pakistan Cables	<a href="#">Link</a>
Engro Corporation	Official Page	Engro Corporation	<a href="#">Link</a>

## **Celebration of International Days**

STEAM Pakistan recently created an activity calendar, using which we plan to celebrate international days pertaining to education, science, art, and women empowerment. We kicked off by celebrating International Literacy Day (September 8), disseminating information across social media via facts, statistics, and infographics pertaining to literacy and the prevalence of dyslexia in Pakistan.

Below are the upcoming international days STEAM Pakistan plans to celebrate:

- World Space Week (4 October – 10 October)
- World Teachers' Day (5 October)
- International Day of the Girl Child (11 October)
- International Week of Science and Peace (9 November – 15 November)
- World Science Day for Peace and Development (10 November)

## Program Management

### Additional resources

STEAM Pakistan recruited additional human resources. The following team members joined in the months of August & September.

- Muhammad Yausoob, Associate Learning
- Hira Shariq, Associate Partnerships
- Nishaa Ahmed, Associate Policy

### Head teacher engagement

STEAM Pakistan is currently devising a mechanism for operationalising regular engagement protocol and process for head teachers of the partner schools. While each of the policy units is currently engaging head teachers under the initiative, a streamlined method of regular interaction and input will be devised, and reported on, effective October/November 2023.

### Meetings with stakeholders

#### Malala Fund, Pakistan

- Meetings leading up to the 1st STEAM Stocktake with SE&LD Sindh in early August
- Meeting with Malala Fund Pakistan in Karachi for next steps on deeper engagement of MF/STEAM in Sindh in middle of August
- Meeting prior to MF Pakistan Country Director's visit to Lahore to provide input for engaging with potential and existing partners for external support to the STEAM Pakistan program in early September

#### Meetings with Secretary, MoFEPT

- Along with MF Pakistan, STEAM Pakistan representatives met with the Secretary to update him on the research publication planned with the Pakistan Institute of Education (PIE) for STEAM in August. Additionally, the program's communications and outreach, as well as geographic expanse was discussed. The Secretary was keen to see the Girls Make Games work being replicated in Islamabad.
- The team also met with the Secretary in early September for a briefing on the collaboration with PIE and the areas where the Programme will require support

#### Meeting with DG, FDE

- The team met and briefed the newly appointed DG FDE on the STEAM program in the middle of September. He requested support for developing an M&E system for the area education management teams to ensure that the program is embedded in the system.

## Gender audit / strategy

Based on the gender strategy and the recommendations, STEAM Pakistan is working on developing a gender action plan. While the first draft of the action plan is yet to be shared, following immediate action items have been incorporated in the process:

- Gender segregated data is now collected from partner schools via the STEAM Portal
- Gender segregated stat reporting will take place with effect from August '23

## Monitoring and evaluation

After final feedback and its incorporation, the MEL team carried out a tool-pilot on 17th August in 4 schools in Islamabad. The tools were reviewed based on the data collected and revised for accuracy. The final tools used in the pilot are accessible [here](#). A report was also submitted on the findings and feedback from the pilot study which can be accessed [here](#). Once the report and the findings were reviewed, additional feedback was shared with the third-party consultants for the baseline evaluation.

The programme baseline was conducted from the 4th through the 12th September 2023. It covered 2400+ students from 60 schools from 3 cities, Islamabad Capital Territory, Karachi, and Rawalpindi. The baseline consisted of student learning assessment for grades 6 to 8 as well as perception surveys with teachers and head teachers. The tools and associated guiding documents used in the baseline can be found [here](#). The final report is now in the process of being drafted and will be prepared by October.

## Monthly stocktake meeting

**Federal:** No stocktake was held in the months of August and September.

**Sindh:** STEM Policy Unit in Sindh held its first stocktake on 17th August 2023. DEOs from all districts in Sindh were invited, and the meeting was chaired by Dr. Fouzia, Additional Secretary, SE&LD. The attendance can be viewed [here](#). The presentation given can also be accessed [here](#). Additionally, the detailed meeting minutes can be found [here](#) including major decisions that were taken.

## Changes in reporting regimes

Effective August 2023, STEAM Pakistan will be sharing bi-monthly programme reports (reports covering the preceding two months). This report is the first report of its kind, and all future reports will be based on the same pattern and time period.

Additionally, institute-specific bi-monthly reporting has been initiated starting August 2023. Each month, three institutes will receive their reports, while three others will receive them the following month with this cycle repeating. The reports shared and upcoming schedule can be viewed below.

Reporting period: August 2023	
Institute	Link to Report
FGEI	<a href="#">Link</a>
FDE	<a href="#">Link</a>
SED - Punjab	<a href="#">Link</a>
Reporting period: September 2023	
Institute	Due Date
E&SED - Gilgit Baltistan	13th October
SE&LD	13th October
SEF	13th October

## Challenges and Mitigation Strategies

This section of the report will include critical challenges addressed during the two months, and the respective mitigation strategy for the challenge. Dedicated efforts from all stakeholders will be required for timely delivery of program components within the revised work plan.

Challenges	Mitigation Strategy
Pakistan moved to the caretaker government on 12th August 2023, followed by a recent announcement of General Elections expected to be held in January 2024 (notified by Election Commission).	STEAM Pakistan is consciously not associating itself with any political party, and is determined to deliver reforms through engagement at the bureaucratic level.
Continued delay by PMIU to approve the letter for the MoU to be sent to SED and then the CM for approval.	Constant follow ups were performed and the programme team helped in finalizing the letter.
STEM PC-1, Punjab Delay in operationalisation of the PC-1 due to additional changes being made to the document Planning & Development Department (Punjab) is taking time to release the funds committed in the STEM PC-1	STEAM team is helping PMIU/SED in addressing the additional required changes to the PC-1 to fasttrack the operationalisation. The delay in the funds linked to PC-1 has been shared with SED, with SED pushing P&D for accelerated release of funds to the schools
Bulk of schools remain stagnant on their school journey levels	List of schools that were not conducting regular activities were prepared and shared with relevant monitoring authorities such as AEOs and DEOs. Additionally, the learning team made calls to specific schools to troubleshoot and address problems being faced. Moreover, the system's own monitoring personnel will also be added to the institution's WhatsApp groups to gauge performance.
Lag in development of math content	A dedicated additional resource has been hired with an expertise in math popularization.
Difficulty in retaining school focal persons in WhatsApp groups created to keep in contact and disseminate important updates	Developed a comprehensive schedule of exciting posts to be shared on WhatsApp groups (including puzzles, submitted activities by schools, fun experiments and fun facts about STEAM related topics).