Usayansi Kenya Scratch Coding Bootcamp Report

Using COBOBLOCKS Premium Kits

Location: Nyabondo Holistic School, Upper Nyakach, Kisumu County

Date(s): 14th – 22nd April 2025

Prepared by: Usayansi Kenya

Date of Report: 24th April, 2025

1. Executive Summary

From 14th to 22nd April 2024, Usayansi Kenya, in partnership with COBOBLOCKS Co. Ltd, conducted a highly engaging 7-day coding bootcamp for early learners at Nyabondo Holistic School. The bootcamp targeted 32 pre-primary and lower primary school children aged 4 to 8 years from Upper Nyakach, Kisumu County. Using COBOBLOCKS Premium Kits, learners were introduced to basic concepts in coding and robotics through fun, interactive, and hands-on activities. The sessions nurtured creativity, curiosity, and foundational STEM skills. Despite challenges related to staffing and limited resources, the bootcamp was a great success and provided meaningful learning experiences. Recommendations for scale-up and continuity are outlined in this report.

2. Background / Introduction

The coding bootcamp was part of the broader CodingnaWatoi Initiative by Usayansi Kenya, which aims to introduce foundational STEM education to children in marginalized communities. This particular bootcamp was made possible through the generous support and donation of 5 COBOBLOCKS Premium Kits from COBOBLOCKS Co. Ltd of South Korea.

The bootcamp was designed to expose early learners to coding concepts using a child-friendly, block-based programming environment and robotic kits. This effort aligns with Usayansi Kenya's commitment to bridge the digital divide and nurture future innovators from a young age.

3. Objectives of the Bootcamp

- To introduce young learners (ages 4–8) to the basics of coding using Scratch and COBOBLOCKS robot kits.
- To encourage curiosity, creativity, logical thinking, and problem-solving among early

learners.
- To provide a practical and enjoyable STEM experience through experiential learning.
- To build a foundation for lifelong interest in science, technology, engineering, and mathematics (STEM).

4. Target Group and Participants

The bootcamp targeted children from Pre-primary 1 and 2, and Grades 1 to 3. A total of 32 learners participated, comprising 14 boys and 18 girls, demonstrating significant gender inclusivity in STEM. The participants were grouped as follows:

5. Methodology / Activities Conducted

Learners were grouped into five learning groups (three groups of six and two groups of seven) to enhance interaction and ensure personalized guidance. The bootcamp consisted of 14 one-hour sessions conducted over 7 days, with most days featuring two sessions.

The sessions used COBOBLOCKS Premium Kits and included the following activities:

1. Introduction to Coding
2. Introduction to COBOBLOCKS
3. Charging & Starting the Robot Car
4. Parts of the Robot Car
5. Obstacle Detection
6. Connecting robot car to start button
7. Making Sound
8. Changing LED Colors
9. Basic Motion Blocks
10. Advanced Movement Sequences

6. Outcomes and Achievements

- High Engagement: Learners showed enthusiasm and curiosity, eagerly participating in every session.
- Improved Understanding: Despite varied learning paces, all learners grasped key coding concepts due to the hands-on format.
- Creativity and Teamwork: Many learners built creative motion sequences and worked well in groups.
- Gender Representation: The strong turnout of girls (56%) underscores the growing interest among young girls in STEM.

7. Challenges Faced

- Limited Staffing: Only three teachers facilitated the bootcamp (two for pre-primary, one for lower primary), limiting the number of learners that could be accommodated.
- Resource Constraints: More COBOBLOCKS kits and digital devices are needed to serve larger groups.
- Financial Limitations: Budget constraints affected staffing, materials, and outreach.

8. Recommendations

1. Increase Teacher Capacity: Mobilize funds to hire more facilitators for future bootcamps.
2. Extend Duration: Consider increasing the number of bootcamp days or conducting multiple sessions annually.
3. Engage Parents: Introduce open days or exhibitions to involve parents and guardians.
4. Track Progress: Establish post-bootcamp follow-up through coding clubs or weekend STEM sessions.
5. Mobilize Resources: Seek partnerships, sponsors, and grants to expand equipment and logistical support.

9. Conclusion

The April 2025 COBOBLOCKS Coding Bootcamp demonstrated the feasibility and impact of introducing young children to coding through playful, engaging methods. Usayansi Kenya remains committed to scaling such initiatives and reaching more children in marginalized communities, ensuring that every child, regardless of background, has the opportunity to become a future innovator.

10. Annexes

Annex I: List of Schools Participated

S.No.	School	Number of Learners		
1.	Nyabondo Holistic School	20		
2.	Nyabondo Day Primary	7		
3.	Nyakach Primary	5		

Annex II: List of Teachers

School No.	Name	ID.No.	School	Phone.No
1			Nyabondo Holistic	0716831764
2.			Nyabondo Holistic	0713704628
3.			Nyabondo Primary	0715176045

ANNEX III: List of Learners

S.No	Name	Age	Gender	Grade
1.		6	Girl	1
2.		6	Girl	1
3.		4	Boy	Pp1
4.		6	Boy	1
5.		6	Girl	1
6.		4	Boy	Pp1
7.		7	Girl	2
8.		8	Boy	3
9.		7	Girl	2
10.		7	Boy	2
11.		6	Girl	1
12.		7	Girl	2
13.		6	Girl	1
14.		4	Girl	Pp1
15.		7	Boy	2
16.		6	Girl	1
17.		7	Boy	2
18.		5	Boy	Pp2
19.		5	Girl	Pp2
20.		4	Boy	Pp1
21.		4	Girl	Pp1
22.		8	Girl	3
23.		7	Boy	2
24.		8	Boy	3
25.		6	Girl	1
26.		5	Boy	Pp2
27.		6	Girl	1
28.		7	Girl	2
29.		8	Boy	3
30.		5	Boy	Pp2
31.		6	Girl	1
32.		7	Girl	2