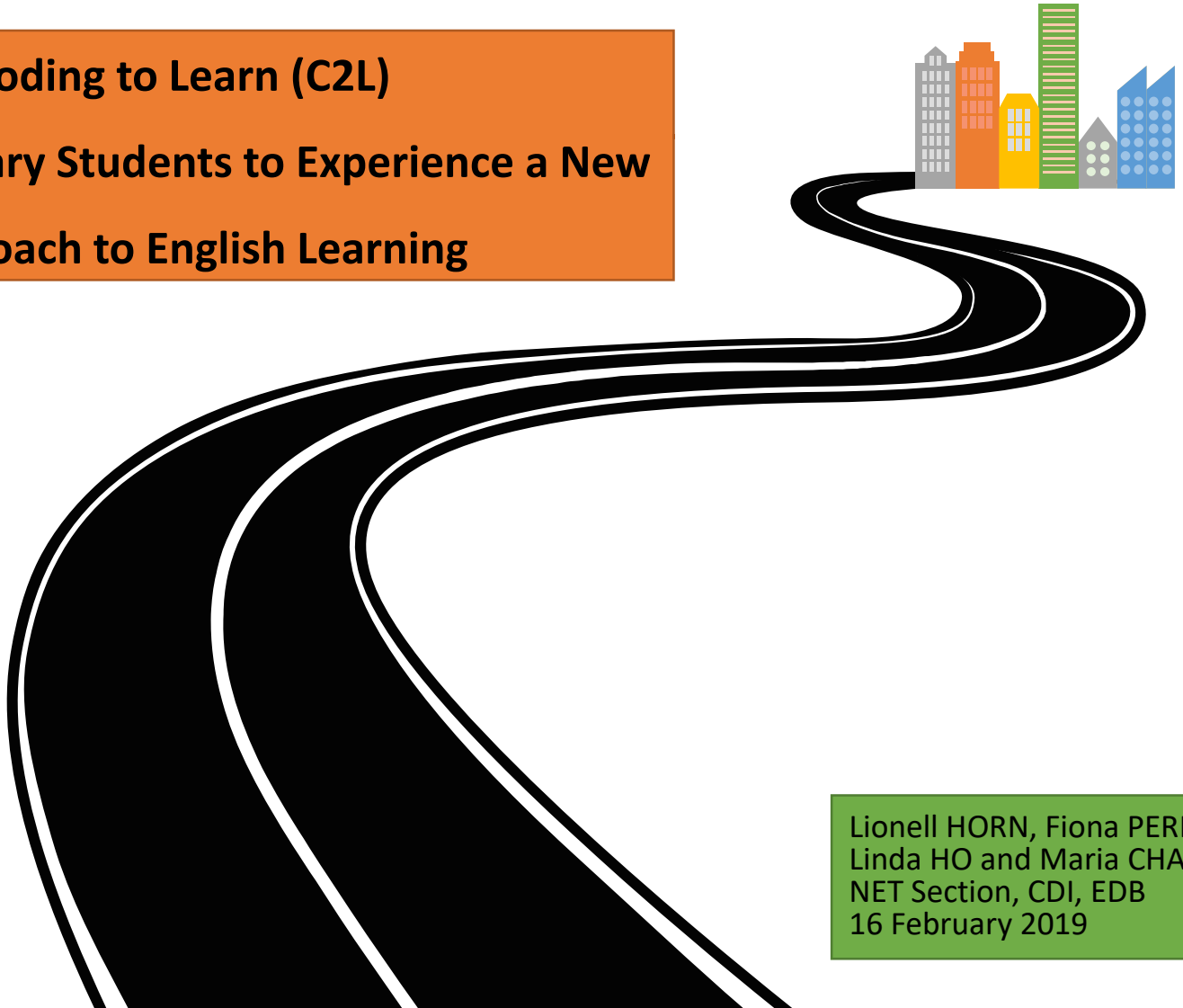
Seed Project 2019 - 2020

Coding to Learn (C2L)

Enabling Primary Students to Experience a New Approach to English Learning

Project Code:

NT0319



Lionell HORN, Fiona PERRY,
Linda HO and Maria CHAU
NET Section, CDI, EDB
16 February 2019

Key Question

How is coding related to literacy instruction?

Description of C2L

The Seed project, *Coding to Learn – Enabling Primary Students to Experience a New Approach to English Learning (C2L)*, aims to explore ways to use coding as a means of motivating and supporting primary students to learn English as a second language.

Objective 1

To design integrated learning activities which provide opportunities for students to develop and apply a range of language skills (6 language skills).

Objective 2

To create opportunities for students to be creators with use of technology not only consumers, through the learning and teaching of coding as a new literacy skill (GS and TE).

Objective 3

To facilitate the development of students' 21st century skills (6Cs).

Objective 4

To promote effective assessment for learning strategies among teachers (SOLO).

Objective 5

To evaluate the impact of coding as a language acquisition activity on the learning, teaching and assessment of English as a second language.

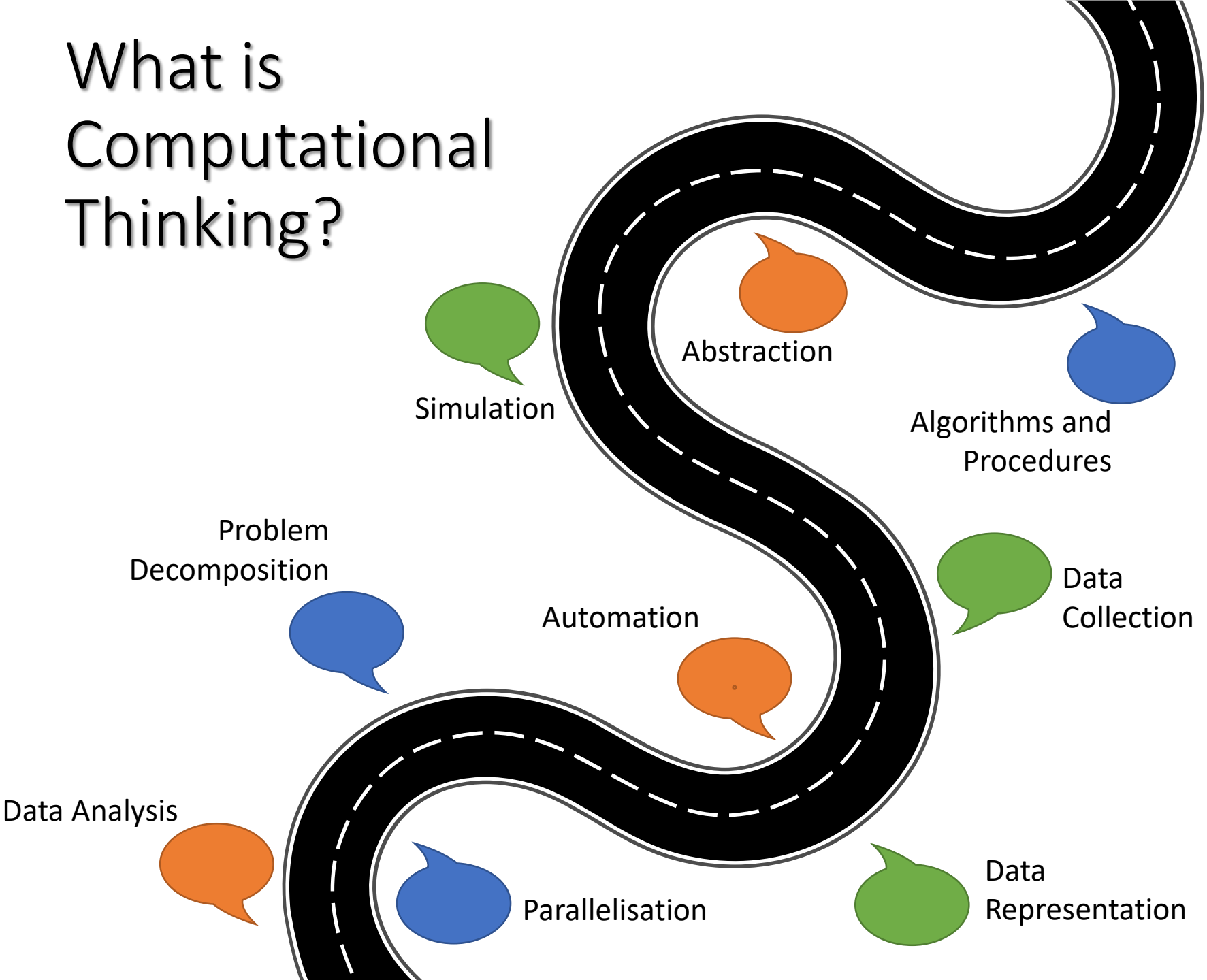
Components of a C2L School-based English Language Curriculum

General Studies

English Language Education

Technology Education

What is Computational Thinking?



Visual Programming Language (VPL)

ScratchJr

VPL

End Product

Animation
Written Story .

LEGO WeDo

VPL & Robotics

End Product

Robot Model
Written Report .

School Sharing

HKUGA

Primary School

Involved in C2L

2017/18 & 2018/19

Christina SUEN
Joyce WONG
Yolanda OKORO

Seed Project Briefing
Coding to Learn (C2L)

16th February, 2019

HKUGA Primary School

Joyce Wong, Yolanda Okoro and Christina Suen

Overview

1. Welcome and Introduction
2. Why did we join the Seed Project?
3. What does the project look like in our school?
4. Benefits and Challenges
5. Q&A

Introduction – About HKUGA Primary School

- Direct Subsidy Scheme (DSS) Primary School in Chai Wan
- Primarily middle class students with strong family support
- Strong linguistics skills in speaking and listening
- Promotion of reading is our key focus

Why did we join the C2L Project?

- Development of **logical thinking** through Coding
- Provision of an authentic avenue for **integrating** with other subjects
- Application of **Character Strengths** such as Curiosity, Teamwork and Love of Learning (***as part of Positive Education***)
- Enhancement of **writing skills** in organisation, cohesion, editing and proofreading in a focused and systematic manner

What does the project look like in our school?

Past: 2017-18: P.3 started

- 2 units (narrative and information texts)
  - Narrative: Writing a story
  - Information: Making a Life Cycle
- Coding via ScratchJr and LEGO WeDo

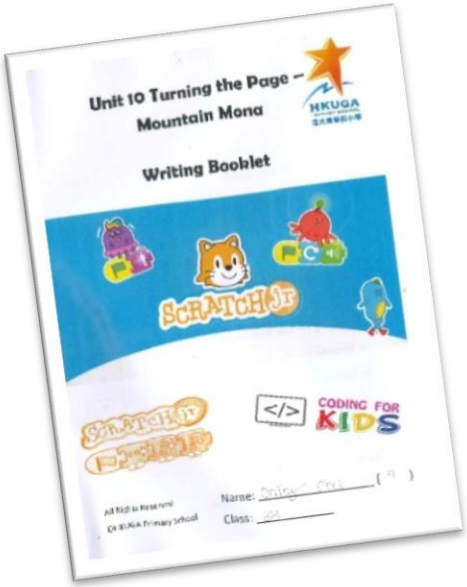
Present: 2018-19: P.1 – P.4

What happened in 2017-18?

- Support from the NET Section (***PDs, planning, sharing resources, Cluster Meeting***)
- ***Co-planning*** with the team of P.3 teachers
- ***Re-writing*** the units to include ScratchJr and LEGO WeDo
- ***Trialing*** and ***supporting*** each other during lessons (Teaching Assistants and other P.3 teachers)
- ***Evaluation*** of achievement of objectives
- ***Revision*** of trialed materials and resources
- ***Moving forward*** (sharing with other YLs)

Using Scratch Jr for Narrative Text

- Teaching students to code using **unplugged** activities
- **Planning** on paper with the help of Scratch Jr
- Creating **animation**
- **Debugging**
- **Drafting**
- **Proofreading** → Revising and Editing [CARS and CUPS]



1. Unplugged Coding

2. Plan

Planning (1)

Sit with your partner. Read each other's experience on WS4.2B. Choose one story and do planning for the story writing.

Scene 1 –The Beginning (Setting and Characters)

- Where? (e.g., mountain, school…)
- When? (e.g., in the morning, one day…)
- Who? (the main character: a boy or girl)

Scene 2 –The Problem (The trouble for your character)

- What kind of trouble did your character have when learning a new skill?

Scene 3 –The Solution (The way to solve the problem)

- How did the character solve the problem?
- What did he/she use to solve it?
- Did he/she need help? By who?

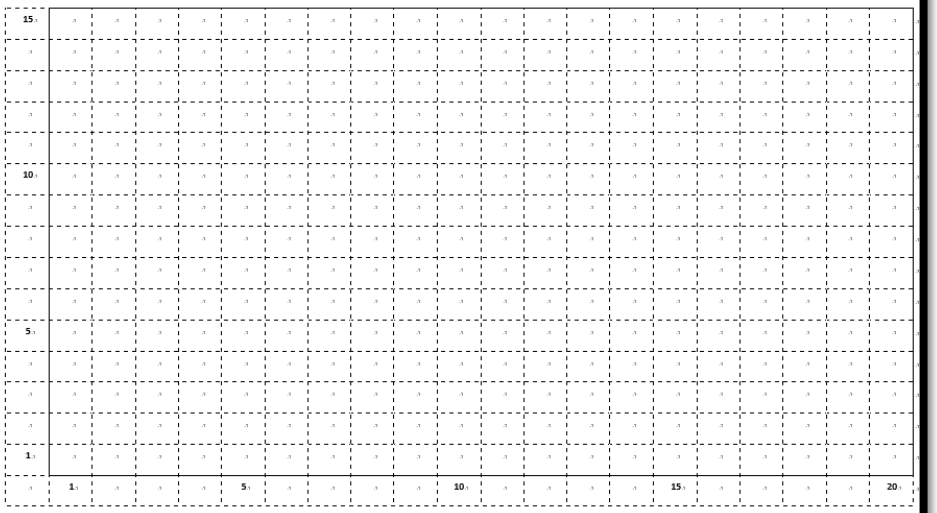
Scene 4 –The Ending (The new life)

- How does this new skill help the character?
- How does she/he feel?

Next step:
Sketch the scenes on the grid (separated sheets).

P3 Unit 4 Author Study Unplugged Coding Planning Sheet **Class: P.3___ Names: _____and _____**

Sketch Scene 1 – The Beginning



3. Learn

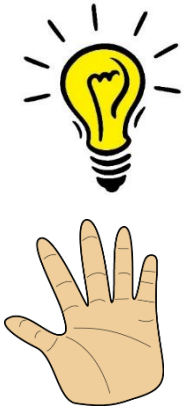
4. Create


Child
Teen
Starfish
Bird
Hi, I'm
1

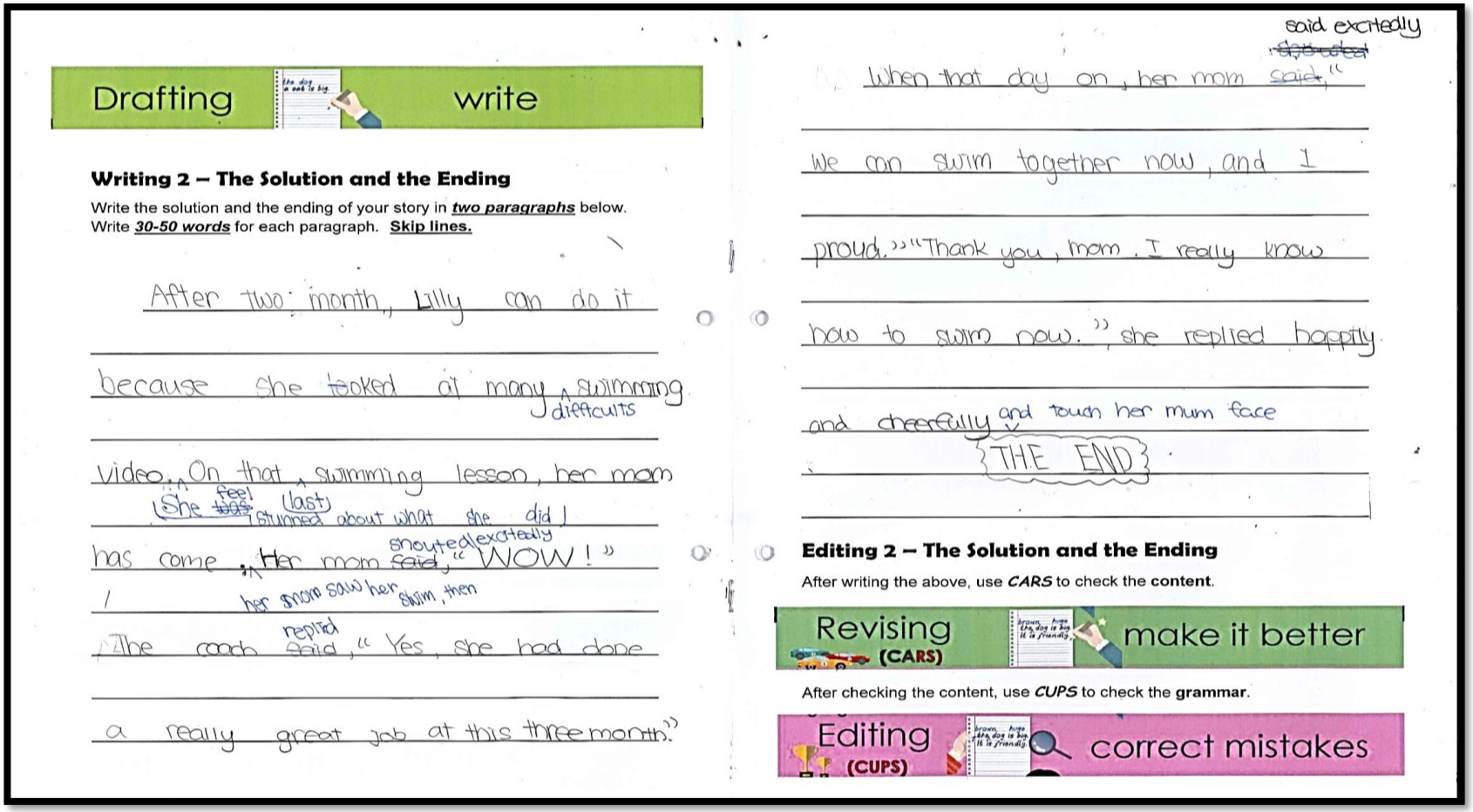

Would you want to join my swimming lesson?
Help! I do not know how to swim!
Crab
Fish
Seahorse
Help! I
Sure!
2


I am your swimming coach now.
Teen
Child
Child
3


Mother
Father
Child
Teen
Wow
Wow!
I know
4



5. Draft then CARS and CUPS



Drafting — write

Writing 2 – The Solution and the Ending

Write the solution and the ending of your story in ***two paragraphs*** below.
Write ***30-50 words*** for each paragraph. **Skip lines.**

After two month, Lilly can do it because she ~~looked~~ at many difficults swimming video. On that swimming lesson, her mom (She ~~was~~ feel stunned about what she did last) has come. Her mom ~~said~~ shouted excitedly "WOW!" her mom saw her swim, then The coach ~~said~~ replied "Yes, she had done a really great job at this three month."

When that day on, her mom ~~said~~ ~~shouted~~ said excitedly "We can swim together now, and I proud." "Thank you, mom. I really know how to swim now." she replied happily and cheerfully and touch her mum face

THE END

Editing 2 – The Solution and the Ending

After writing the above, use ***CARS*** to check the **content**.

Revising (CARS) — make it better

After checking the content, use ***CUPS*** to check the **grammar**.

Editing (CUPS) — correct mistakes

6. Publish and Share

Publishing write to share

Good Copy

Copy your revised and edited story below. **No need** to skip lines.

One day, Lydia was playing with her toys in her room because she had nothing to do. Then, her mum came in and asked, "One plus one equals...." Lydia replied, "Don't ask me!" When her mum went out Lydia whispered, "I don't know how to do math! I'm scared!" One week later, Lydia went to school and in math class Lydia thought, "my school's math lesson is good."

One recess, Lydia went to the library and and whispered, "I need to practise math so I can improve." When recess was over Lydia went back to class, when it math class my teacher said, "Today we have an FA!" Lydia muttered, "I hope I have full marks."

On Monday the math teacher said, "I will give the FA now." Lydia was scared, when the teacher give the FA to Lydia, She was happy because she had full marks.

After the FA was over, she starts to practise math at recess. Then her math FA had full marks. One day, Lydia's mum shouted, "I'm so proud of you!" So that's why Lydia liked math now.

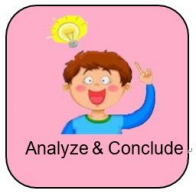
Great effort. There is a clear problem and solution. You used many speech verbs and some high-level words. However, some parts of your story don't make sense. How come Lydia got full marks and then she practised? She should have done poorly, practised and then got full marks.

Enhancing students' speaking abilities through sharing

- Students present their story at the end of the Process Writing Stage
- They feel more confident to speak with support from the process they have gone through
- More structure, content and wider range of vocabulary

Using LEGO WeDo with Information Text

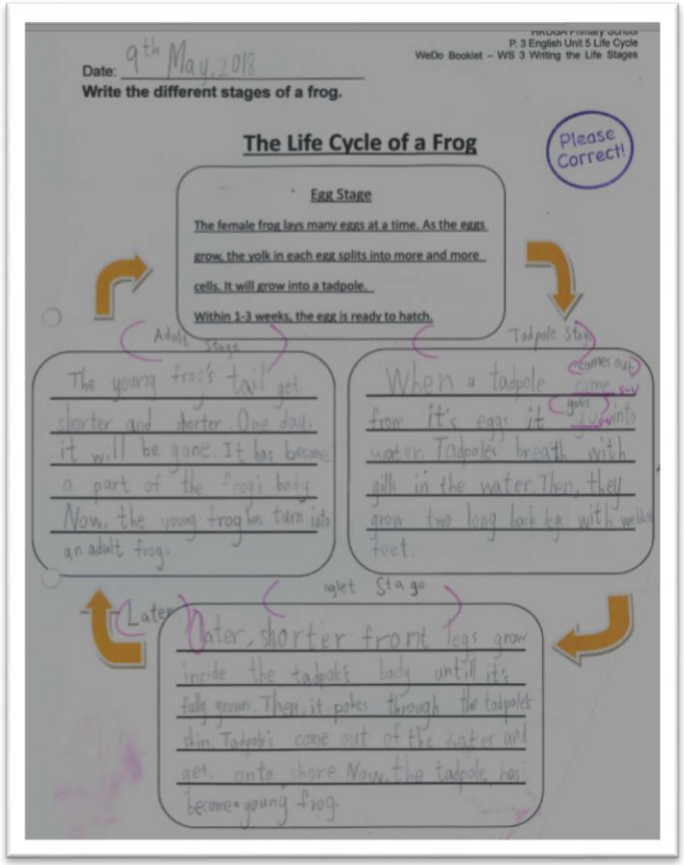
- Teaching students the **life cycle** of a frog
- Teaching students how to **observe** the changes from a tadpole to an adult frog
- **Programming and debugging** of the model
- **Record** the changes
- **Drafting** the different life stages of a frog
- **Proofreading** → Revising and Editing [CARS and CUPS]



Reading, Observing & Jotting Notes

Programming (Motion & Sound) & Debugging

Drafting a Life Cycle



P. 3 English Unit 5 Life Cycle
WeDo Booklet – WS 3 Writing the Life Stages

Date: 9th May, 2018

Write the different stages of a frog.

The Life Cycle of a Frog

Please Correct!

Egg Stage

The female frog lays many eggs at a time. As the eggs grow, the yolk in each egg splits into more and more cells. It will grow into a tadpole.

Within 1-3 weeks, the egg is ready to hatch.

Tadpole Stage

When a tadpole comes out from it's eggs it goes into water. Tadpoles breath with gills in the water. Then, they grow two long back leg with webbed feet.

Adult Stage

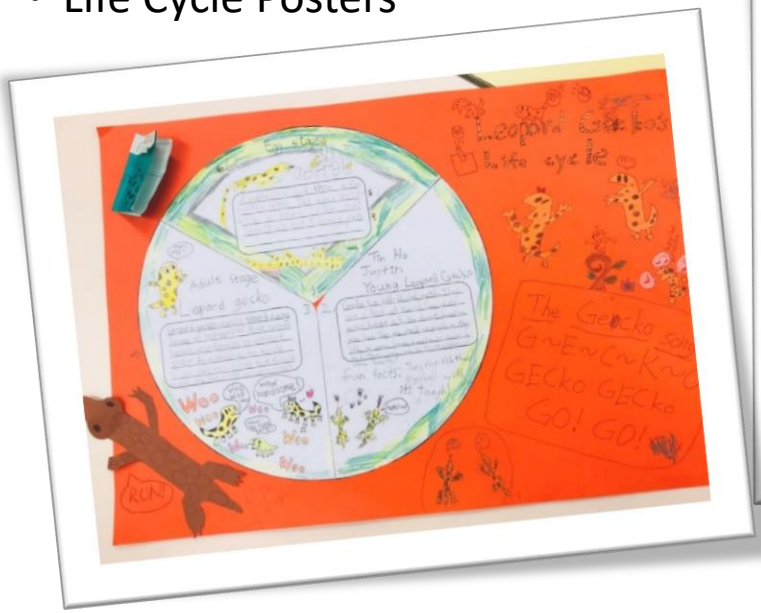
The young frog's tail get shorter and shorter. One day, it will be gone. It has become a part of the frog's body. Now, the young frog has turn into an adult frog.

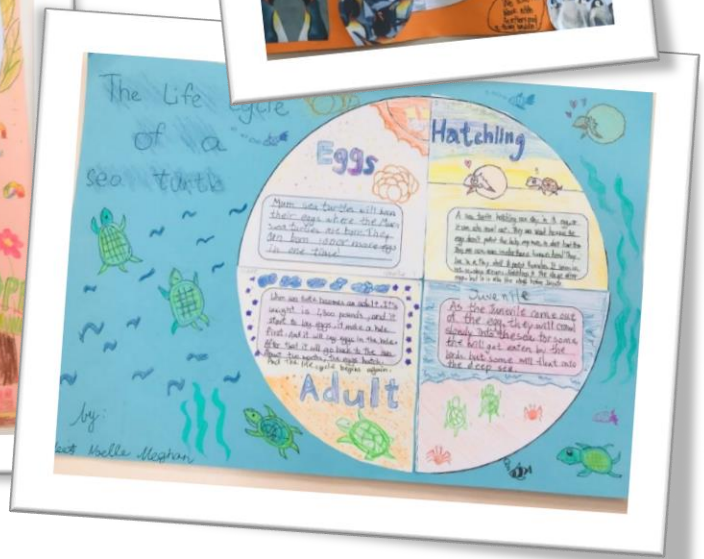
Later

Later, shorter front legs grow inside the tadpole's body untill it's fully grown. Then, it pokes through the tadpole's skin. Tadpole's come out of the water and get onto shore. Now, the tadpole has become a young frog.

Extending the Learning

- Group Project – Research and explore the life cycle of a different animal/insect's life cycle
- Life Cycle Posters



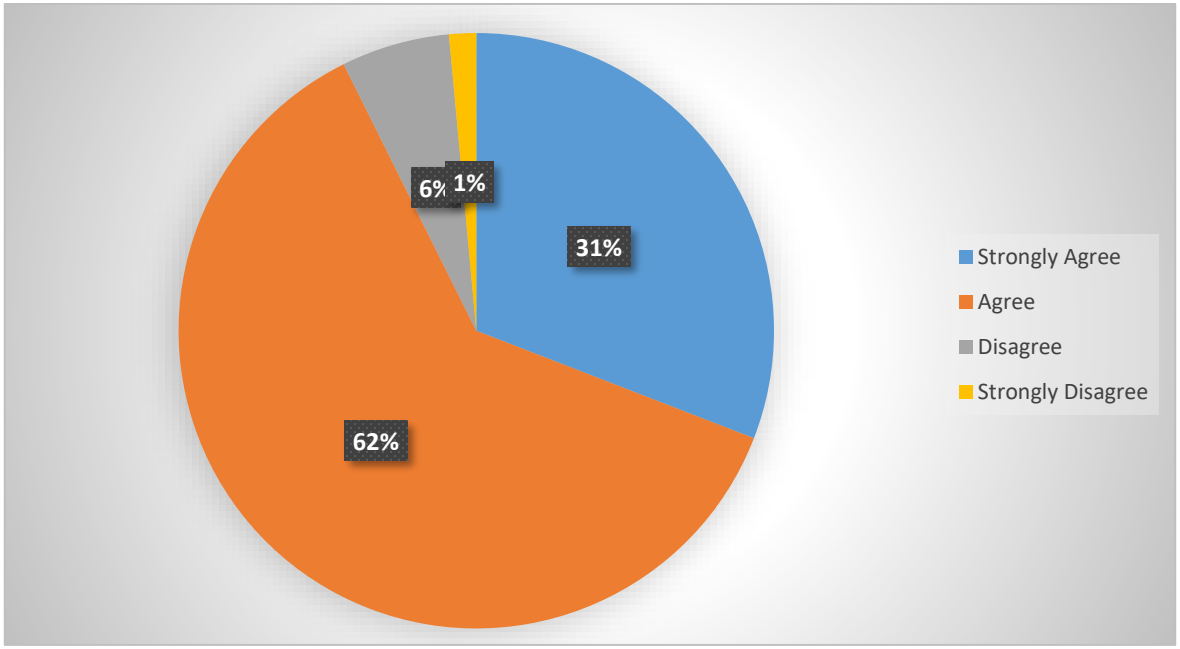


Evidence and Evaluation

- ☑ Development of **logical thinking** through Coding [***ongoing***]
- ☑ Provision of an authentic avenue for **integrating** with other subjects
- ☑ Application of **Character Strengths** such as Curiosity, Teamwork and Love of Learning (***as part of Positive Education***)
- ☑ Enhancement of **writing skills** in organisation, cohesion, editing and proofreading in a focused and systematic manner [***ongoing***]

P.4 Questionnaire [Dec 2018]

"I am able to proofread my writing."



Moving Forward

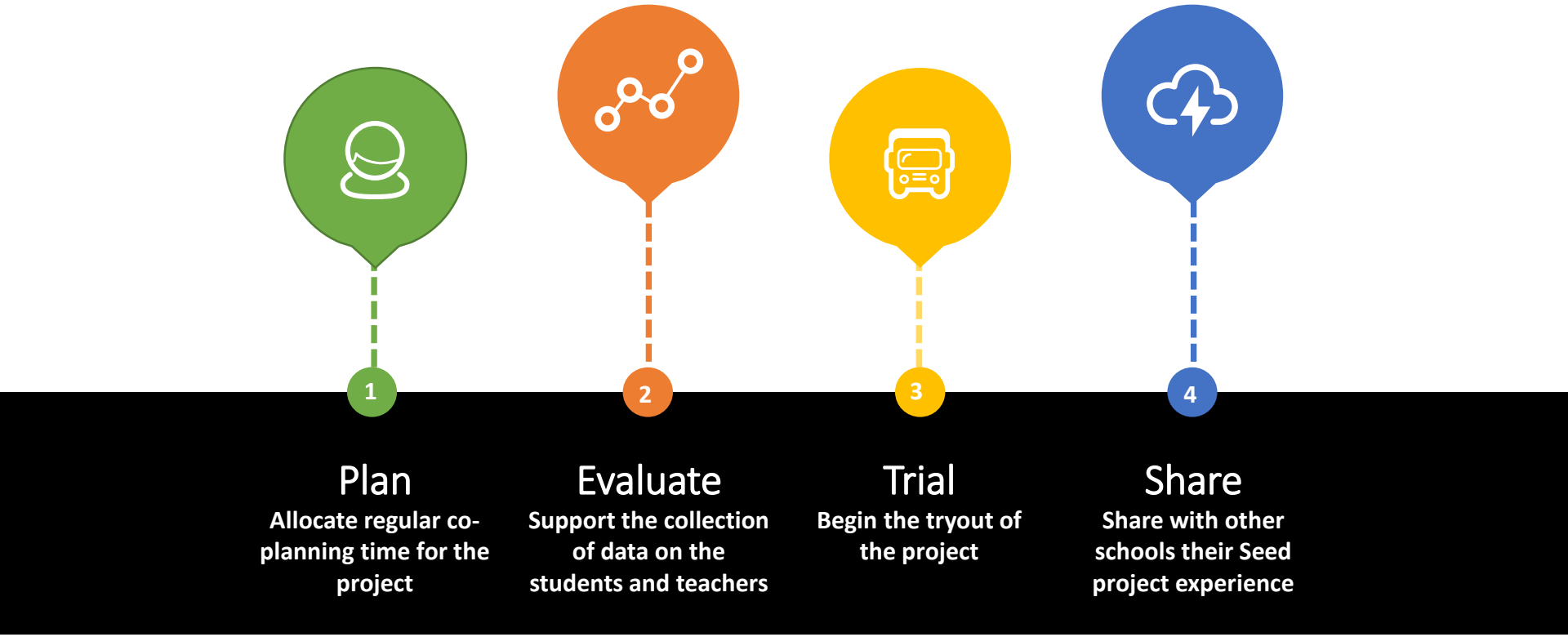
Plus ✓		Minus ✗	Change
• Writing with fun • Provide ss a structure • Picture with the visual cues more to write, especially the weaker ones • Write in paragraphs – better organisation • Used more dialogue in their writing	• Enough time to plan, write and revise their story • CARS and CUPS posters helpful • Normal word limit not enough • Widened reading scope • Research skills	• Need more time for debugging • Need more time for the unit	• Relook and revise current units to make more time for the unit
• Kids are working more collaboratively	• In depth discussions • Students were speaking about the character and its movement • Enhanced interactions with teacher	• Ideas got lost due to limitations in the App	• Ss can draw their own background and characters
• Need development to get to more complex coding blocks			• New topic – Earthquake (P.4)

Thank you!

Key Question

How is coding related to literacy instruction?

School Commitment General



C2L is a three-year Seed project
(started in the 2017/18 s.y.)

School Commitment Project Teachers

EPC

LET

NET

?

Options for C2L Seed Project Schools

Two levels of participation

Level 1

- attend professional development
- implement the project
- share resources with other project schools
- identify and share good practice
- contribute towards the project evaluation

Level 2

- membership of learning community and network

Guiding Research Questions

Question 1

Coding & ESL

To what extent has coding helped second language students develop their language skills?

Question 2

Consumers vs Creators

With the use of technology, how have students become creators, rather than merely consumers, of information?

Question 3

21st Century Skills

How has the teaching and learning of coding supported the development of students' 21st century skills?

Question 4

Assessment for/as

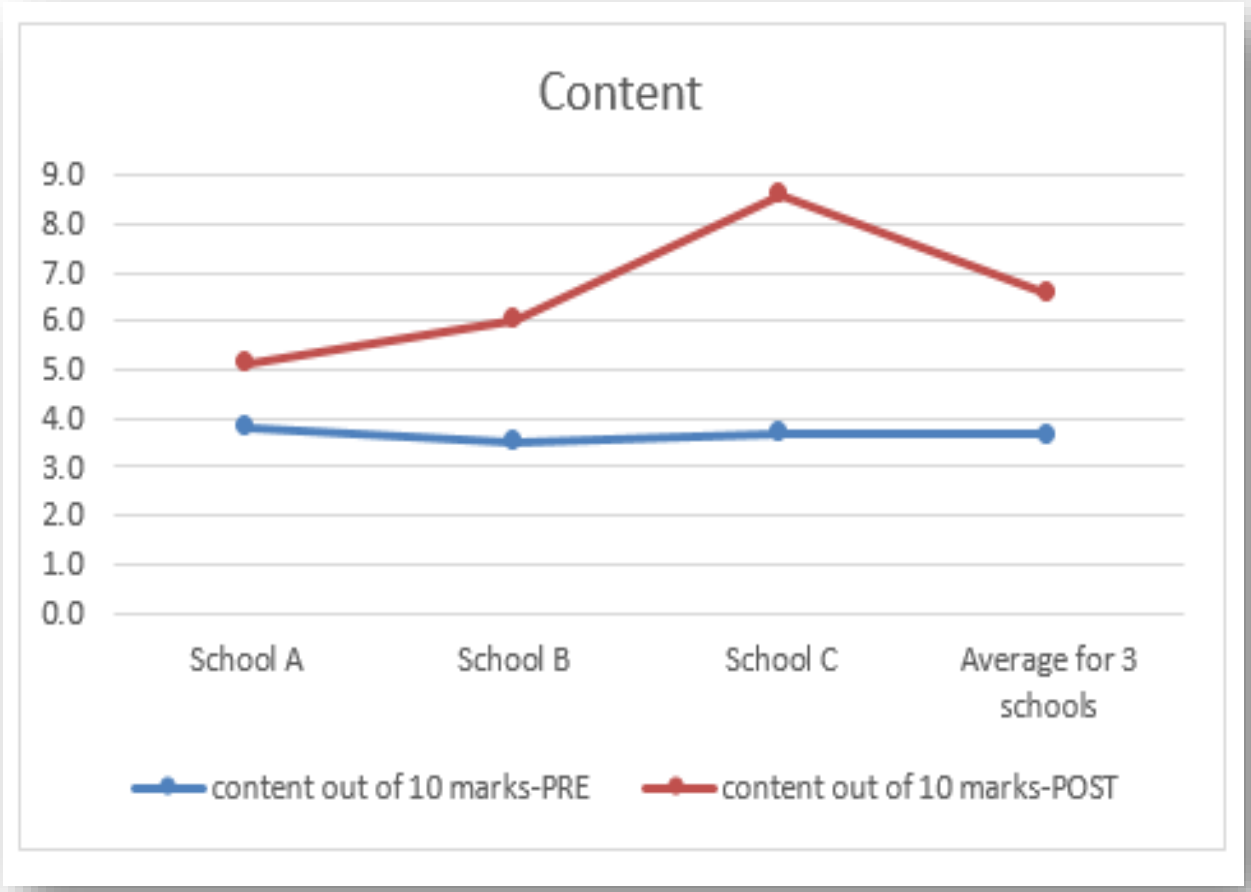
What changes were seen in the school-based assessment to include assessment for and as learning strategies?

Initial Evaluation Results Coding

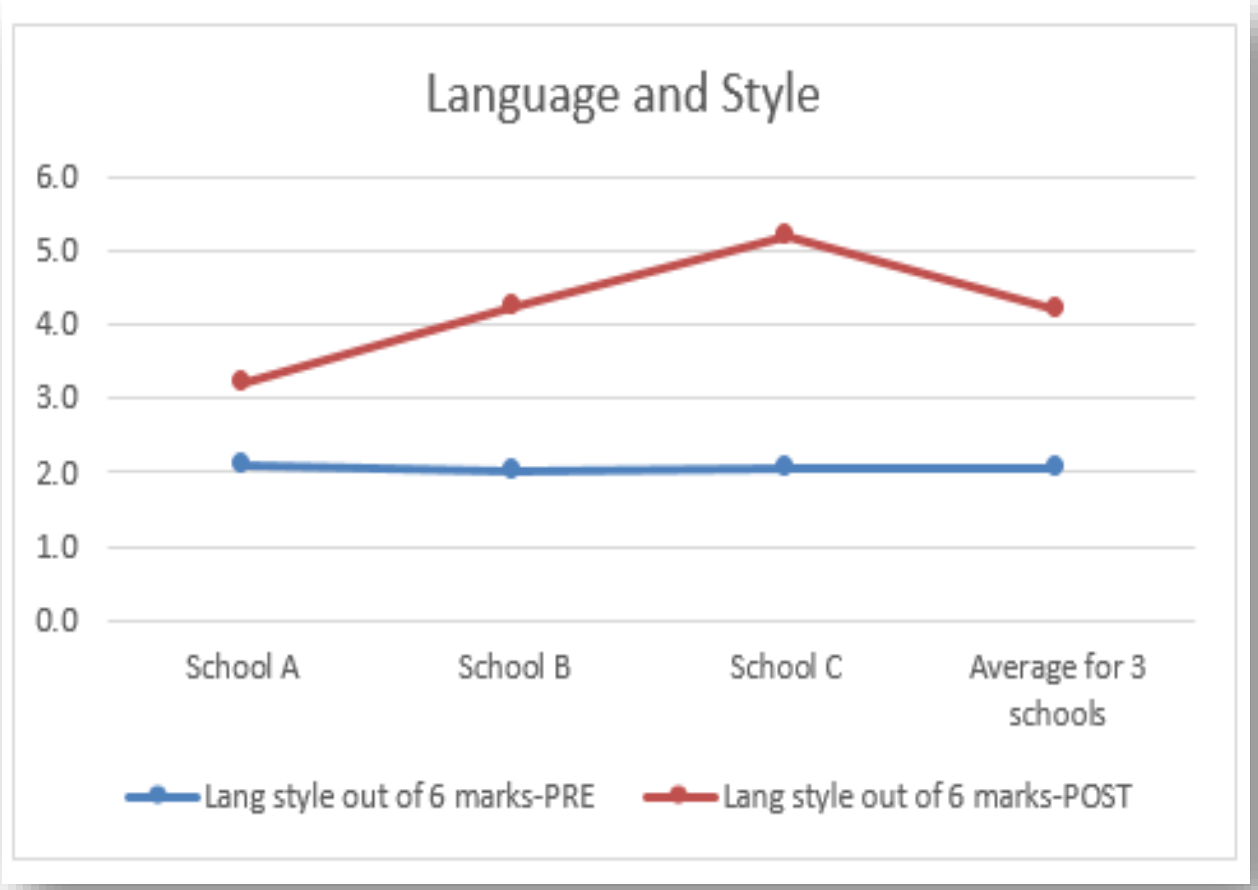
		School A			School B			School C			School D			Overall		
Sections	Questions	-	=	+	-	=	+	-	=	+	-	=	+	-	=	+
1	1.1	-4	24	+2	-1	2	+1	-1	17	+1	-2	19	+7	-8	62	+11
	1.2	-1	12	+17	-1	1	+2	0	14	+5	-4	18	+6	-6	45	+30
	1.3	-6	12	+12	0	0	+4	0	4	+15	-3	7	+18	-9	23	+49
2	2.1	-6	11	+13	-4	0	0	-1	7	+11	-2	7	+19	-13	25	+43
	2.2	-9	10	+11	0	2	+2	-1	5	+13	-1	3	+24	-11	20	+50
	2.3	-4	7	+19	-1	0	+3	-1	3	+15	0	6	+22	-6	16	+59
3	3.1	-3	15	+12	0	3	+1	-1	17	+1	-2	20	+6	-6	55	+20
	3.2	-5	15	+10	0	4	0	-1	6	+12	2	15	+11	-8	40	+33
	3.3	1	17	12	0	4	0	-1	16	+2	0	23	+5	-2	60	+19

Key: - decrease = equal + increase

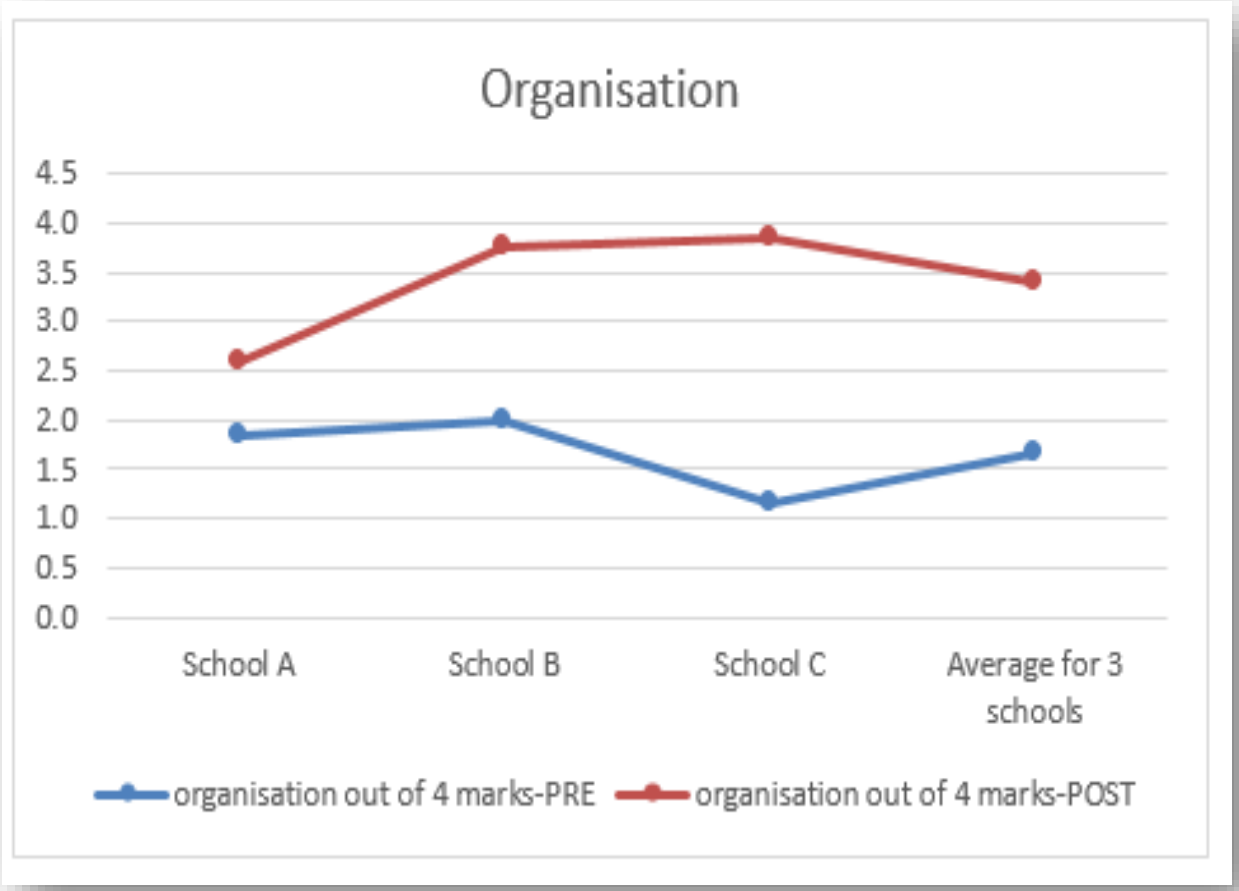
Initial Evaluation Results
Content



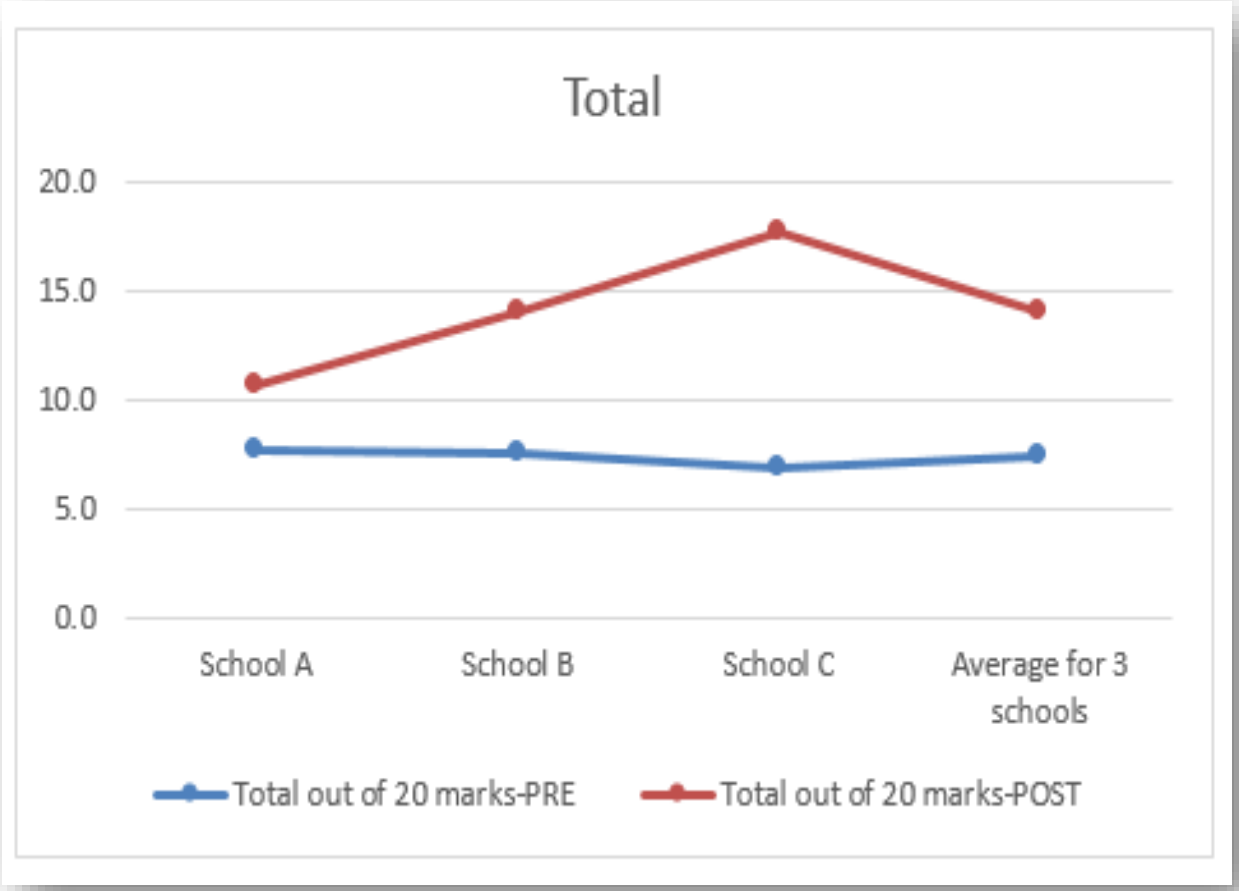
Initial Evaluation Results
Language and Style



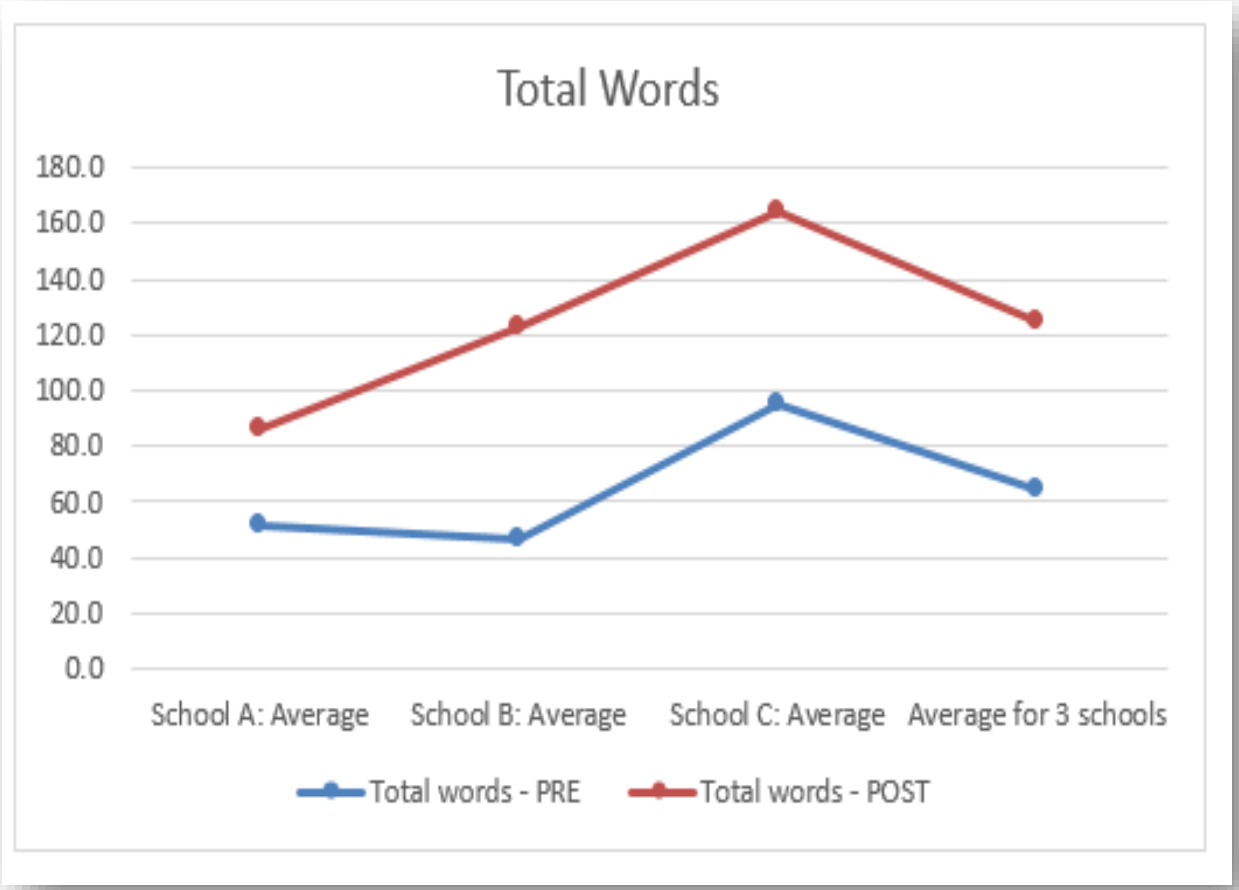
Initial Evaluation Results
Organisation



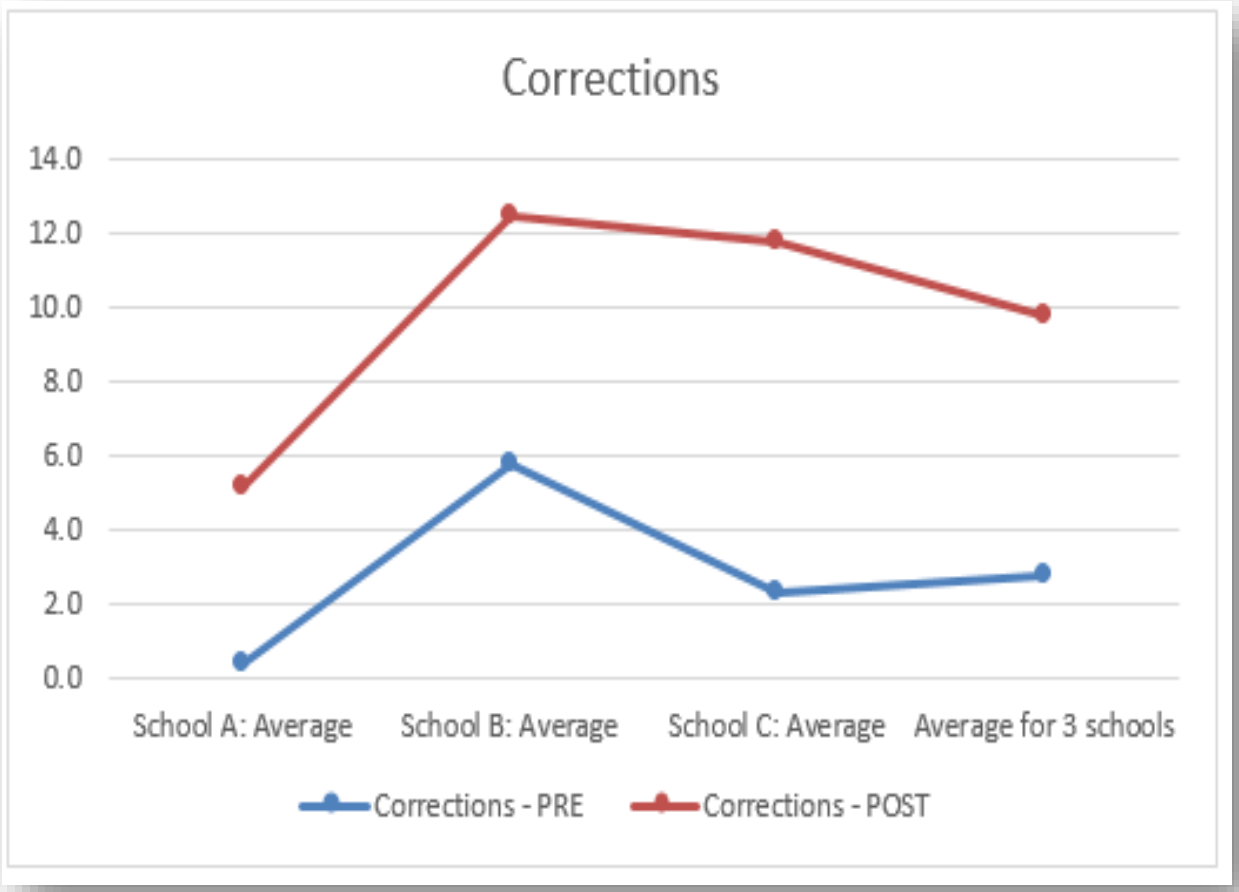
Initial Evaluation Results
Writing Total



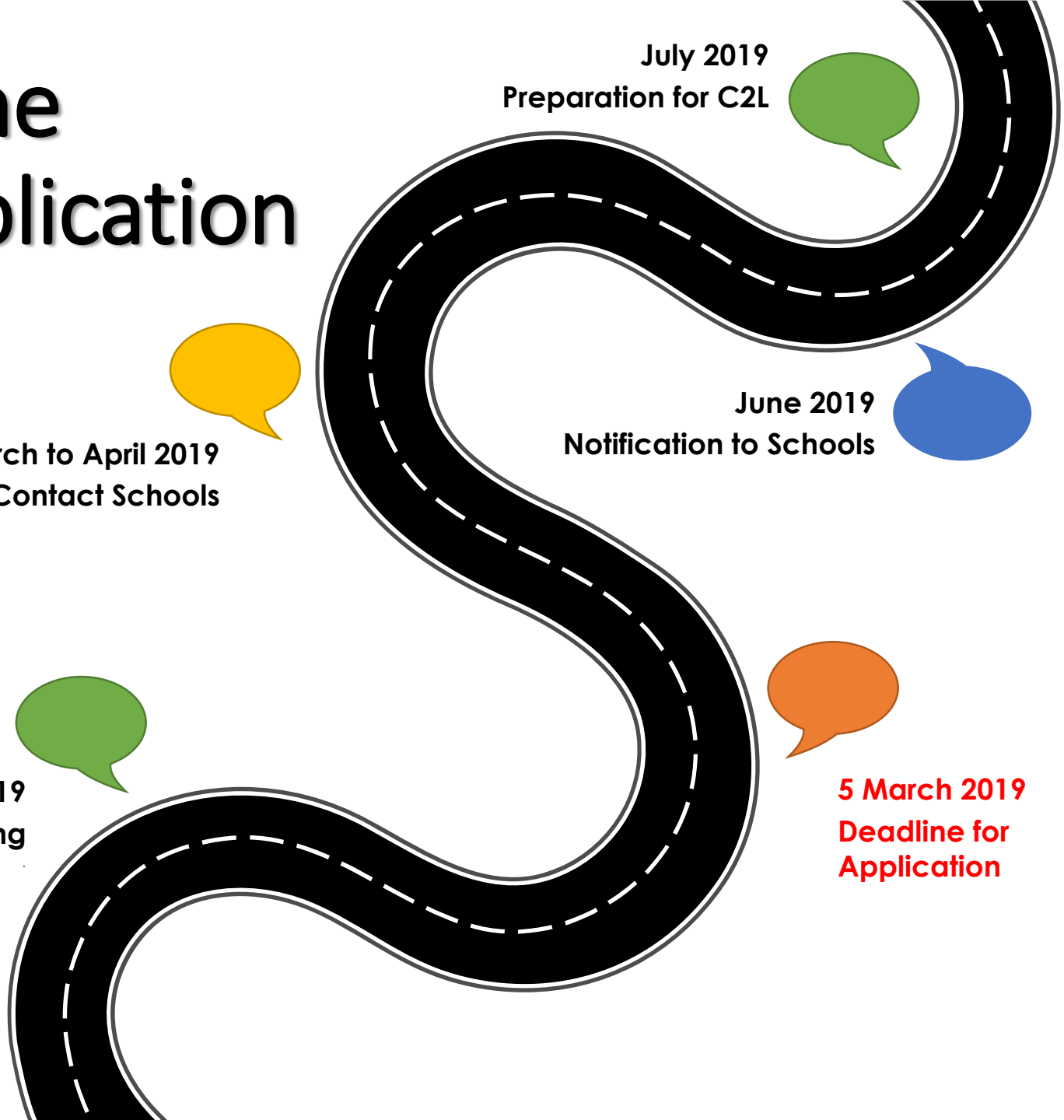
Initial Evaluation Results
Writing Number of Words



Initial Evaluation Results
Writing Corrections



Timeline for Application



Project Proposal
Education Bureau Circular Memorandum No. 5/2019

Project Title:
Coding to Learn – Enabling Primary Students to Experience a New Approach to English Learning (C2L)

Project Code: NT0319

Name of CDI Section: Native-speaking English Teacher Section

Seed Project: Appendix C

Deadline for application: 5 March 2019

Posting Your Proposal

Please send to the following address:

Human Resources Management Unit of EDB
4/F, East Wing
Central Government Offices
2 Tim Mei Avenue, Tamar, Hong Kong
(Application for Staff Interflow Schemes 2019))

Q & A – Professional Matters

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NET Scheme e-Platform

Fostering Learning Communities Among International Educators

https://nets.edb.hkedcity.net/