# A Complicated Side Quest

## A narrative exploration of children's experience of Computer Science in early secondary school


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# Background

- Computer Science remains a relatively low-uptake subject at GCSE
- Participation remains socially uneven
- Responses to underrepresentation are often superficial
- We still know too little about how children's beliefs about belonging in Computer Science are shaped through classroom experiences.

(Ofqual, 2022; Royal Society, 2017; Science and Technology Committee, 2023)

**This study explores how Year 7 children interpret those experiences over time, and how they inform their developing Computer Science identities.**

# Narrative Identity

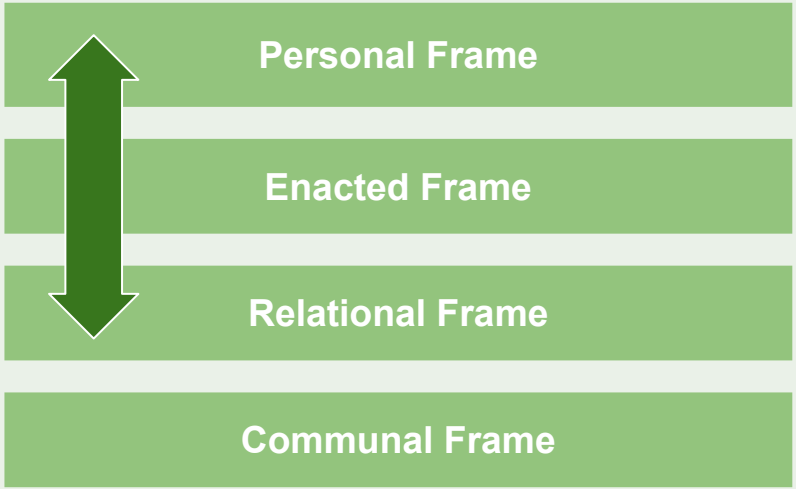
“Identity is the culmination of the stories we tell about ourselves, the secrets we keep, and the stories others tell about us. These are the stories we have learned about ourselves from a time when we had not yet learned how to tell stories, and they are the stories that people will continue to tell about us after we die. They are the stories that are told on the behalf of adolescents and adults who are unable to tell their own stories, and the stories that families tell about relatives who can no longer remember their past...

# Narrative Identity

“...They are the lies, the apocryphal tales, the false memories and the stories we deny. They are the stories we would rather forget, and the stories we wish we could remember. We must acknowledge the many stories that will never be told and the stories we cannot repeat, but which are still central to others’ identities. Finally, with humility, we should listen to and learn from the stories others choose to share”

# Conceptual Lens

## Communication Theory of Identity
(Hecht et al., 2005)




## Expectancy Value Theory
(Eccles & Wigfield, 2002)

**Expectancy for Success**

**Subjective Task Values**

Attainment Value

Intrinsic Value

Utility Value

Cost

# Research Methods

**Three interviews over the course of the year with each of nine children in Year 7 attending one of two secondary schools in the East of England**

Narrative analysis was used to co-edit a verbatim narrative for each participant.

## Participants' narratives have been grouped into three categories:

| Secure Computing Identities | Fragile Computing Identities | Eroding Computing Identities |
| --- | --- | --- |
| Tony | Bobbi | Wanda |
| Natasha | Bruce | Hope |
| Clint | Jarvis | Scott |

# Bobbi's Story

Autumn | Spring | Summer

*"I think I'm very creative and smart... really good at leadership and teamwork... kind; kind of a nerd, hardworking. And fun."*

*"I think it's useful to me because it helps me learn more in case if something got broken then I might be able to fix it."*

*"If I contributed more I'd probably be wrong. There's no in between like nearly there or just a bit off."*

*"No other children have ever told me directly that I'm doing well in Computer Science. If they did... I'd be really proud of myself."*

# Bobbi's Story

Autumn | Spring | Summer

*"Maths and English are the most important subjects"*

*"I want to be an astrophysicist... work on the computers and figure out how to send stuff into space... so I guess it's important."*

*"I haven't answered any questions... because I'm scared I'm gonna be wrong... it's probably just Computing where I find it difficult."*

*"I think I find Computer Science more difficult than the other children... everyone else was on higher levels... I was on one of the first levels."*

# Bobbi's Story

Autumn | Spring | Summer

*"On my assessment, it went really well. I got Exceeding."*

*"Maths, English and Science are core subjects. Everyone needs them for their GCSEs, and they're the main kind of subjects that you will use in everyday life."*

*"Recently, my dad has told me that it's important to know Computing and Computer Science now, because technology is going to get more advanced."*

*"I wouldn't really say I'm a Computer Science person; I'm not too good with computers."*

# Theme 1: High Quality Feedback

***"Nobody has ever told me I'm doing well in Computer Science. I don't really know how I'd respond if they did. I guess I'd like someone to tell me I'm doing well. I don't know why they haven't really."*** - *Scott's Narrative*

- Feedback shaped children's sense of legitimacy in Computer Science, bolstering their expectancy for success.
- In the absence of feedback, children looked elsewhere to judge their progress.
- Effective feedback did not just measure attainment; it shaped children's identities.

# Theme 2: Whole Class Questioning

***"If someone doesn't answer the question, I feel like, how don't you know this? I don't raise up my hand. I just shout out the answer."*** – *Jarvis' Narrative*

- Whole-class questioning made identity performances visible.
- Some children experienced this as affirming, while others experienced it as risky and embarrassing.
- A sense of peer judgement increased the cost of participation.

# Theme 3: Curriculum Design

***"I'd like to do something physical. Computer Science could help me with that because on the web, you search up and see some things to help improve. PE is probably more important. I don't really know whether I'll do GCSE computing; not yet. I haven't had any thoughts about it."*** – *Bruce's Narrative*

- Curriculum influenced whether children valued Computer Science.
- Some children struggled to see relevance beyond the classroom.
- Transferability and authenticity were necessary, but not always signposted.

# Practical Takeaways

**How can teachers support more secure Computer Science identities in Year 7?**

- Feedback should be frequent, meaningful, and specific enough to support identity development as well as progress.
- Questioning should be safe and inclusive so participation does not feel risky.
- The relevance and transferability of Computer Science should be made explicit.
- Learning design should leave room for creativity, curiosity, and challenge.

# References

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