Business in the Community

Time to Code pilot programme

Evaluation report

Contents

1 EXECUTIVE SUMMARY

1.1 Introduction

Time to Code is a pilot initiative developed and delivered by Business in the Community NI (BITC NI) with the aim of introducing the concept of computer coding to primary school children across Northern Ireland. As the Time to Code pilot is concluding, BITC NI require an external agency to complete an independent evaluation of the initiative over the course of its duration (Sept 2016—Dec 2017).

1.2 Project Delivery

The pilot initiative has demonstrated both effectiveness and value for money in its delivery. The project has largely delivered successfully against all its objectives, and within the budget assigned, despite some delay in delivering against the original project timetable.

1.3 Impacts and Outcomes

The initiative has managed to achieve significant impacts for the whole spectrum of stakeholders involved. Teachers and principals alike have lauded the scheme for its impact on pupils and the schools, while some volunteers noted an increase in enthusiasm for teaching the topic.

The most notable improvement has been visible in the participants themselves with tangible increases in awareness of coding, likelihood of seeking to explore it further in their own time, and even into consideration for future work roles.

1.4 Conclusions

It is the opinion of the evaluators that Time to Code has proved itself as an effective intervention that represents value for money in terms of its investment and generated impacts. As a result, we see significant merit in the project's continuation and potential expansion.

1.5 Recommendations

- Requirement for an options appraisal of the avenues for project continuation being proposed
- Explore avenues to draw in public funding for extended/expanded programme delivery
- Requirement for more detailed project monitoring arrangements on numbers, spend, timelines etc.
- Develop clear and specific SMART objectives in future delivery
- Ensure schools are adequately prepared in ICT capacity prior to commencement of future projects
- Ensure the teacher responsible for the participating class is the one attending training

- Look at restricting participants to P5 pupils and older, or working with Code Club to amend the content to better suit younger Primary 4 participants

2   INTRODUCTION

2.1   Time to Code Overview

Time to Code is a pilot initiative developed and delivered by Business in the Community NI (BITC NI) with the aim of introducing the concept of computer coding to primary school children in Northern Ireland. Through a partnership with Code Club[1], the initiative utilises volunteers from local businesses to support KS2 pupils through a number of Scratch projects in hourly sessions, on a weekly basis over the course of 12 weeks.

In its pilot phase, the initiative initially sought to deliver the programme in 12 separate Primary Schools – eight in Belfast and four in the North West. Over the course of its implementation, there was provision made to expand the roll out in the North West to a further two schools to meet local interest. The following schools participated in the initiative:

Belfast Schools	North West Schools (Derry Londonderry)
• Elmgrove Primary School (East)	• Longtower Primary School
• St Joseph's Primary School (East)	• Sacred Heart Primary School
• Forge Integrated Primary School (South)	• St Eithne's Primary School
• Taughmonagh Primary School (South)	• Lisnagelvin Primary School
• Our Lady Queen of Peace Primary School (West)	• St Paul's Primary School
• St Teresa's Primary School (West)	• Ebrington Primary School
• Mercy Primary School (North)	
• Seaview Primary School (North)	

The pilot initiative has been funded via private sector contributions from Belfast Harbour and BT[2]. This funding was required in order to cover the management and delivery of the programme, and administration and marketing costs.

2.2   Purpose of the Evaluation

As the Time to Code pilot is concluding, BITC NI requires an external agency to complete an independent evaluation of the initiative over the course of its duration (September 2016 – December 2017).

The following evaluation will be required to assess the performance of the initiative against its objectives and set KPIs, as well as other indicators of success.

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[1] Code Club provided volunteer and teacher training, while also providing the online learning resources for the participants

[2] Belfast activities were funded by Belfast Harbour, while North West activities were funded by BT

The initiative has been developed at a time when the teaching of coding is not directly referenced in within the Revised Curriculum for Northern Ireland. Taking into account the DfE's strategy[3], and the draft Programme for Government upon which it is based, this appears unlikely to change in the short-medium term.

A 2015 NI Assembly briefing paper[4] noted a reliance on the informal teaching of coding in primary schools in the form of coding clubs and societies. This is in contrast to a growing international trend towards the inclusion of programming and computers science related subjects in formal primary school age education.

Time to Code aims to contribute to closing this gap in young people's education, and there is a need to demonstrate that it is able to effectively do so. This evaluation is required to assess the benefits demonstrated by the initiative in its pilot phase and its merits as a mechanism to plug this education gap. The evaluation will also seek to identify areas of learning to inform any potential expanded provision in the future.

2.3 Methodology

The methodology employed for this study sought to take into account the full range of quantitative and qualitative information available to the evaluation team. This was analysed via the 3E framework (Economy, Effectiveness & Efficiency) in order to evaluate the success of the scheme and its delivery. The key components of our methodology are detailed below.

- Stage 1 – Review of the Policy/Strategic Context
- Stage 2 – Consultations[5] & Participant Feedback
- Stage 3 – Review of Project Management Information
- Stage 4 – Collation and Analysis
- Stage 5 – Reporting & Presenting

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[3] Department for Education NI: Children & Young People's Strategy 2017-27
[4] NI Assembly: Research and Information Service Briefing Paper – Paper 37/15 'Coding in Schools' Feb 2015
[5] We had originally sought to consult with the relevant Code Club representative, this was not possible as the individual had since moved on from the organisation

3 REVIEW OF THE STRATEGIC CONTEXT

3.1 Introduction

This section details a brief review of the NI policy and strategy relevant to the activities of BITC's Time to Code initiative.

3.2 Literature Review

Table 3.1: Review of the Strategic Context

Policy	Key Points
Governmental Policy	
Northern Ireland Executive – Draft Programme for Government 2016-21	The new PfG shifts its focus towards longer-term societal outcomes for NI, designed to be in place for a generation. The Time to Code initiative contributes toward a number of these outcomes, most importantly: ***"We give our children and young people the best start in life"*** A key aspect of this is the provision of high quality education (including pre-school). Unfortunately, the document makes no explicit reference to the teaching of programming related ICT education. BITC's response[6] to the draft noted that while it was positive to see a focus on digital literacy, it would like to see the introduction of coding in schools. As the PfG is still in its draft phase, there is potentially still opportunity to influence its goals to take into account computer science based learning in formal primary school education. Given the longer-term nature of the new strategy, it is considered important to effect such change now. It is hoped demonstrable positive outcomes from the Time to Code pilot may contribute to this.
Departmental Strategy	
Department of Education: Business Plan 2016/'17	The Department for Education Business Plan sets out the key priorities and objectives of the new department for the stated financial year. The business plan has been developed to support the 2016-21 Programme for Government. Recognising the PfG as being in draft form and in its consultation phase, there was scope to update the plan to better reflect the PfG as and when it is finalised. The department's plan sets out seven corporate goals. The activities of the Time to Code initiative have direct relevance to the following corporate goals: • 2) Raising standards for all: Within this goal, the Department sets out key actions in relation to 'Pupil Attainment' and the delivery of a 'broad and balanced and coherent curricular offer' • 4) Developing the education workforce: There is an identified need relating to teacher training and the extent to which teachers are confident/capable in teaching coding to primary age pupils. A key aspect of this goal strengthening the education workforce and professional development.

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[6] BITC NI Response to the Programme for Government, Dec 2016

Department of Education: Children & Young People's Strategy 2017-'27	Similar to the Business Plan, DfE's strategy for children and young people is based on the visions contained within the draft PfG. The strategy is linked to the draft PfG, recognising that 'today's children and young people are tomorrow's workforce. It is important that they have the education, skills and social confidence to thrive in a prosperous Northern Ireland'.
	As such, **Learning & Achievement** is a key aspect of the strategy. The strategy states 'all children and young people should have access to an education which will develop their personality, talents and abilities to their fullest potential'.
Department for the Economy: Economy 2030 – Draft Industrial Strategy for NI	The DfE Economy 2030 strategy is currently in its consultation phase. The strategy is underpinned by the vision *"to be a globally competitive economy that works for everybody".* It notes that the digital-ICT sector is key in the NI economy (£870m in economic output in 2013) and growing rapidly (32% growth over five years to 2013). It is in these areas where the strategy states that NI must concentrate our efforts.
	The strategy sets out five key areas by which it will set its priorities to achieve this. Key for the activities of Time to Code is:
	• Enhancing Education Skills & Employability.
	The activities of Time to Code make a direct contribution to the following priority contained within this area:
	- An education system that provides our young people with the skills for life and work
	While also having indirect linkages to the following:
	- A high quality, efficient and responsive system for delivering professional and technical skills
	- A strong and relevant supply of skills for economic growth
CCEA Business Plan 2017-'18	Similar to the Department for Education, the CCEA Business Plan also recognises the need to move towards an outcomes based approach in line with the draft PfG. The 2017/'18 business plan sets out six corporate goals with a number of commitments/actions. There are a number of these to which the activities of the Time to Code initiative are directly relevant. These are closely aligned with the DE Business Plan for 2016/'17, with the following corporate goals having greatest relevance:
	• Corporate Goal 2) Raising standards for all
	• Corporate Goal 4) Developing the education workforce
	• Corporate Goal 5) Improving the learning environment
Project Partners	
Belfast Harbour: Corporate Responsibility Strategy	Though its 'value system' Belfast Harbour has developed a Corporate Responsibility Strategy which seeks to reach out to local communities and provide assistance to projects that reflect and contribute to Belfast Harbour's business and marketing plans. The Time to Code initiative makes key linkages with the following criteria:
	• Enabling Belfast Harbour to reach new target audiences or stakeholders
	• Establish an emotional connection with external stakeholders and the wider community

	• Deliver benefits to Belfast and/or Northern Ireland Support is provided across four primary categories. The activities of the Time to Code initiative align with the "Young People" category.
BT: 2020 Ambitions	As part of its 'Purposeful Business' efforts, BT states: "We use the power of communications to make a better world" In order to achieve this BT has set out its 2020 ambitions by which it seeks to use the power of communications to *"to make a better world – for our business, our customers and society as a whole"*. BT focuses on three areas in order to achieve this. Time to Code makes key linkages with the following focus area: **We bring the benefits of a connected society to everyone:** This means helping 10 million socially disadvantaged people access better healthcare, learning or employment opportunities. As part of this, BT seeks to enable five million children in the UK to become more involved in technology.
Other	
NI Skills Barometer 2015 (2017 Update)	The NI Skills barometer was conceived in order to model the future skills needs of Northern Ireland and to identify the current gaps in the current workforce by level, sector and education subject area. The skills barometer identified the biggest sectoral supply gaps as being within: • Engineering and Technology • Maths & Computer Science It projects that the economy will need an additional 400 Engineering & Technology, and a similar number of Maths & Computer Science, graduates each year. Ability and understanding of computer coding is a key aspect within both of these sectors. This need for graduates is born out of the Information and Communications sector projected as the second largest growth sector to 2026. The activities of Time to Code are directly relevant to this given its aims to encourage a greater level of interest in coding at a young age and therefore encouraging more young people to go down a path of coding in their future employment choices.

4   CONSULTATIONS & FEEDBACK

4.1   Introduction

This section outlines the key points to emerge from our programme of consultations with key project personnel.

4.2   Project Funders

Funders were keen to draw attention to the extent to which the Time to Code project aligned with their respective corporate responsibility/purposeful business objectives. In the case of the two funders here; Belfast Harbour's Corporate Responsibility Strategy, and BT's 2020 ambitions.

Belfast Harbour and BT viewed the need for the initiative from two angles:

- Most teachers do not feel confident about teaching computing or coding at even a basic level;
- Existing Code Clubs are held after school/weekends – times when children from more disadvantaged backgrounds typically don't have the opportunity to avail of

Beyond the initial project proposal and funding commitment, practical involvement in scheme delivery was limited with the funders happy to trust BITC in the effective use of the funds provided. There was some involvement in the initial project development, as well as contributing towards the provision of volunteers towards the scheme.

Given the largely hands off nature of their practical involvement in project delivery, there was limited experience on which to draw conclusions on its effectiveness at this time. However, anecdotal evidence they were aware of had been positive of the scheme.

A common issue both funders came up against was the recruitment of volunteers into the scheme on their end. Both stated getting volunteers onto the scheme from their companies had been difficult, either due to work release requirements or due to the higher speciality involved compared to other BITC schemes such as "Time to Read".

Both funders expressed a cautious willingness to continue the scheme beyond its current pilot phase. It was considered to be an interesting and innovative project and that the impacts would be interesting to view.

However it was generally considered that the project in its current guise is limited in its capacity to effect wide ranging change on its own. The needs this project sets out to address, it was felt, can only be effectively met through change at a government level and in the core curriculum, and this is some years away.

However in the absence of this, Time to Code is an effective mitigating measure to lessen the impact of the curricular intransigence towards computer science and coding, while at the same time providing real opportunity for positive social and economic impacts for those participating.

4.3 BITC NI Delivery Team

Consultation with the delivery team was useful in determining areas of project delivery that worked well, as well as teasing out areas of learning for future delivery.

It was the view of the delivery team, that the project had overall been a great success, feedback received reaffirmed their belief the programme was worth carrying out. While short in duration, the project had given children from more deprived backgrounds a different outlet and a greater level of accessibility in ICT and coding. The hope is that it will "light a spark" in their interests and broaden their future opportunities.

It was felt much of the project's success was enabled through BITC's unique position to apply best practice derived from the experience of delivering other "Time to" projects.

The team viewed the contribution of Code Club as being of huge benefit to the scheme. In addition to its core service of providing training and the learning resources for the project, Code Club also enabled volunteers to access materials outside of the project scope to further their personal development as well as search for other ICT related volunteering opportunities. This was all provided at no cost to the scheme.

The team noted they are investigating a number of options and scenarios for future delivery and expansion of the initiative. Central to these options was the rationale that while expansion beyond current delivery was desirable, they would like to ensure this does not come at the expense of the current schools that have enable the initiative to get to where it is today. These options were:

- Maintain delivery as is
- Expansion in current areas of delivery (Belfast & North West)
- Expansion in Belfast and into Newtownabbey
- Expansion as an Norther Ireland wide initiative

In any future provision, the delivery team did note some areas of learning from the pilot initiative that they would seek to implement in future delivery. Some of the key pertinent areas of learning were:

- The need to ensure the teacher taking the class would be the school representative involved in the initial training sessions
- Better communication between schools and BITC to ensure the schools have the ICT capacity and are adequately prepared to commence the programme
- Ensure there is clarity that volunteers are there to support teachers, not there to take / mind the class

4.4   Code Club[7]

Code Club is a charitable network of volunteers seeking to help prepare young people for life and work in a world increasingly shaped by digital technologies. Code Club identified Time to Code as an idea with direct relevance with its own priorities. As such Code Club pitched itself to BITC as a collaborative partner in the scheme.

Code Club recognised the lack of focus towards computer science subjects within the NI curriculum. They are currently contributing toward addressing this gap through the roll out of 300 Code Clubs across NI. However it was noted that while this was the registered number of Code Clubs, not all were currently active and the gap still remained in terms of class time provision.

The consultee was aware they had less hands-on experience in the day-to-day scheme delivery. They did note that overall the scheme appears to be effective in its delivery with some extremely positive volunteer and participant feedback. They were willing to offer a number of points that were felt would aid future delivery as far as they were concerned. These were:

- Ensuring schools fully understood their role in the project and how they were a key part of delivery, not simply a facilitator of volunteer delivery - some schools were more engaged than others
- Issues of capacity and preparedness, that have been touched on previously, that created initial teething problems

Going forward, there were no concerns from Code Club about the sustainability of carrying forward their contribution of learning resources and training to any continued or expanded delivery of the scheme. They did make the suggestion that in order to allow training provision to be 'worth their while' a minimum of 10 participants per session would be preferable. Any lower and they may seek to utilise other methods such as video link tutorials etc.

Code Club seek to include a focus on helping underprivileged children gain experience in coding. This is very much in line with the ethos of Time to Code but they were still keen to make the point that they would like to see this continued in future provision.

They were also keen to point out that Code Club had recently expanded its remit of educational materials to encompass early secondary school age groups – in the event that any future provision may seek to extend involvement for a longer period of time across the educational journey of participants.

4.5   Project Volunteers

Feedback on the delivery of the programme from volunteers was, in the vast majority of cases, very positive. The volunteers originated from a variety of backgrounds and were recruited onto the initiative

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[7] The relevant Code Club coordinator had was no longer with the organization at the time of the evaluation. Feedback was provided by the relevant line manager based on feedback received from the coordinator over the course of the initiative.

via a number of avenues. In the main these were employees from sponsor and partner organisations. However there were others who volunteered through previous experience of working with BITC initiatives, or of their own accord after hearing of the scheme.

The volunteers noted some key benefits in their own personal development through involvement in the scheme, citing: increased confidence in a teaching capacity, willingness to pass on their skills as well as the general sense of wellbeing enjoyed through seeing the development of the children's skills in coding.

"I've learned a lot about computer game programming and CSS/HTML that I would never know without this programme" – Emma Owens, North West

Some of the key positives to emerge, in terms of the scheme's impacts and outcomes for the children, from volunteer feedback were as follows:

- The development witnessed in children over the course of their involvement in the programme in terms of problem solving, achievements and communication
- There were particular children who really bought into the work and could see its potential impact. A factor made all the more real through the workplace visits the scheme facilitated
- Encouraging those who wouldn't normally have considered coding as part of future work. This was especially notable in some girls who developed a real interest

"I have seen the most brilliant transformation…they have come so far. Far beyond my expectations and something a shorter amount of weeks would never have provided" – Lisa Donaldson, Belfast

All volunteers who provided feedback rated the Time to Code initiative as either good or very good. There were, however, some issues identified in scheme delivery. These are detailed below:

- The gap between volunteer training, and rollout of activities was excessive at times – sometimes up to three months
- Technical – system and equipment issues or capacity to accommodate the programme. In some schools, session time was lost getting the system running and getting participants logged in
- Lack of clarity between teachers and volunteers as to who was to be leading the sessions, and who should be in the supporting role

"Computers seemed to cause a number of challenges from slow running to not working. The class initially had no log in details to save their work… resolved at week three" – Jennifer Sisk, Belfast

These issues are largely minor in their severity and many are simple 'teething problems' quite common with the roll-out of newly developed initiatives. However, they are important to be cognisant of in any future rollout of the scheme. There was a cohort who felt that while the scheme was good in its own right, it was a relatively short project and that any future scheme should try and extend their period of involvement to ensure the outcomes are sustained and optimised.

> *"I would really hope that this is the start of something big. It is hugely beneficial for kids"* – Maria McColgan, North West
>
> *Needs continued roll out. I would love to volunteer in another club in the school"* – Susan O'Kane, Belfast

4.6   Teachers

Feedback from teachers and schools involved in the scheme was also predominantly positive. The schools were able to identify that a need did exist for the scheme. Schools recognised that the future work environment will be predominantly technology driven and so it is essential that children have exposure to, and the opportunity to learn, essential ICT and coding skills.

In terms of its rollout, the teachers and schools were extremely positive about the content of the programme and how it was helping the children develop a skill they had no previous experience in.

> *"Pupil progress has been marvellous. The Scratch projects are extremely enjoyable and their coding knowledge and understanding is flourishing"*

It was felt that the complexity of the scheme (at least in the use of Scratch) was ideally suited for the KS2 age group. However, issues in pupil's ability to grasp the slightly more complex HTML element were noted.

Intervention at KS2 level was viewed as important as "the sooner they discover their ability, the longer they have to develop that skill set".

The contribution of the volunteers to successful delivery of the scheme was repeatedly lauded.

> *"The volunteers were fantastic. Had it not been for the volunteers, the children would not have got the same wonderful experience".*

However, there were some aspects of project delivery the schools identified as problematic and could be improved in future delivery. These are summarised below:

- There should be an opportunity to enable teachers to continue pupil development with Scratch & HTML beyond the project to help sustain its impact. In that sense it would have made sense to ensure the teacher taking the class was the one who attended training. In addition, there should be the opportunity for teachers to work with an 'expert' in order to further develop their ability

- Less of a focus on making each session one task, before moving onto the next task the following week. Time pressures meant often tasks were not completed. Make it about learning the programme, not just completing tasks

> *"A fantastic project, and with careful review could be even better!"*

5   KEY FINDINGS ON PROJECT DELIVERY

5.1   Introduction

This section details our review of the available information relating to project management and delivery. This will form a key component into our assessment into the effectiveness of the initiative.

5.2   Project Conception

The proposals for funding assistance to both Belfast Harbour and BT briefly detailed the overall idea and ethos behind the Time to Code initiative. The proposal for both Belfast and the North West detailed that the pilot would initially seek to recruit four schools in each area. In order to administrate this, proposals sought a total level of funding of £10,000 from each funder.

This was revised after initial meetings whereby Belfast Harbour stated they were willing to commit an additional £15,000 to include expanded delivery and an end of project evaluation. Therefore, in Belfast the scope of the project increased to eight schools, while in the North West the decision was taken to accommodate all six schools who had made concrete expressions of interest in facilitating the project, at no further cost to BT.

5.3   Project Delivery

The final funding received for delivery of the pilot initiative was £35,000. This was budgeted as follows:

Table 5.1: Pilot Time to Code Funding

Aspect	Allocation
Research, programme development and delivery	£16,625
Management support time	£7,125
Marketing	£1,175
Additional costs, e.g. mileage, mobile costs	£5,075
Project evaluation	£5,000
Total	**£35,000**

The Time to Code delivery team noted that the project had operated successfully within its budget allocation, incurring neither overspend nor underspend, but also pointed out that additional time was allocated to project development at the earlier stages, with the cost of that time absorbed by BITC.

The project was subject to some unavoidable delays. Meeting minutes and action plans highlighted delays in the rollouts of the schemes to each school by the factor of around a month. The delays were attributed to organisations not releasing volunteers as quickly as had been expected. This created a knock on effect on other aspects of the project such as the gathering of monitoring data and the scheme's evaluation – putting additional pressure on delivery and evaluation staff.

The table below sets out the key objectives set for the Pilot Time to Code initiative, and the extent to which these have been achieved over its duration to date.

Table 5.2: Performance against Objectives

No.	Objective	Status
1	Eight schools recruited in Greater Belfast, four schools recruited in the North West **(end of each phase)**	Overachieved with recruitment of 14 schools in total
2	BITC member companies and schools (14) focus groups to be created to drive project **(from Dec 2016 - Mar 2017)**	Disregarded with agreement from all delivery stakeholders, as deemed unnecessary for project of this scale
3	36 business volunteers to be recruited (2 per school) with 80% (recruited, trained & vetted) completing the **programme (End of Aug 2017)**	Achieved with revised timescale
4	100% of pupils & schools to attend an inspirational work place visit **(end of Dec 2017)**	Partially Achieved, with some continuing in 2018
5	Baselining of all pupils at beginning, and evaluation at project end	Achieved

From the table above, we can ascertain that the initiative has been largely effective in achieving the objectives set for it. The aforementioned delays had some limited impact on this, with one objective only partially achieved at this stage. Overall, the scheme has been delivered effectively.

In total, the project was delivered to 533 KS2 children over the 14 schools. This translates into an investment of £56[8] per participant in the scheme. This would appear to represent value for money for the funders of the initiative, especially considering the potential improved future social and economic outcomes for participants. Any expanded future provision is likely to see further reductions in this figure taking into account the design phase has been largely completed, as well as other economies of scale.
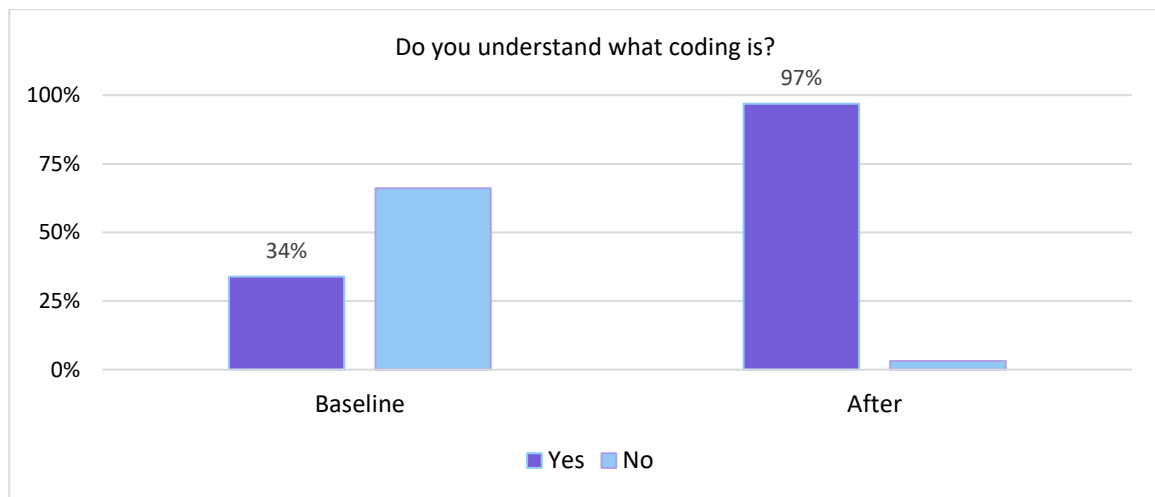
The impact of the Time to Code initiative on the participating children is detailed in the following section.

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[8] Not including the £5,000 invested into the project for the cost of project evaluation

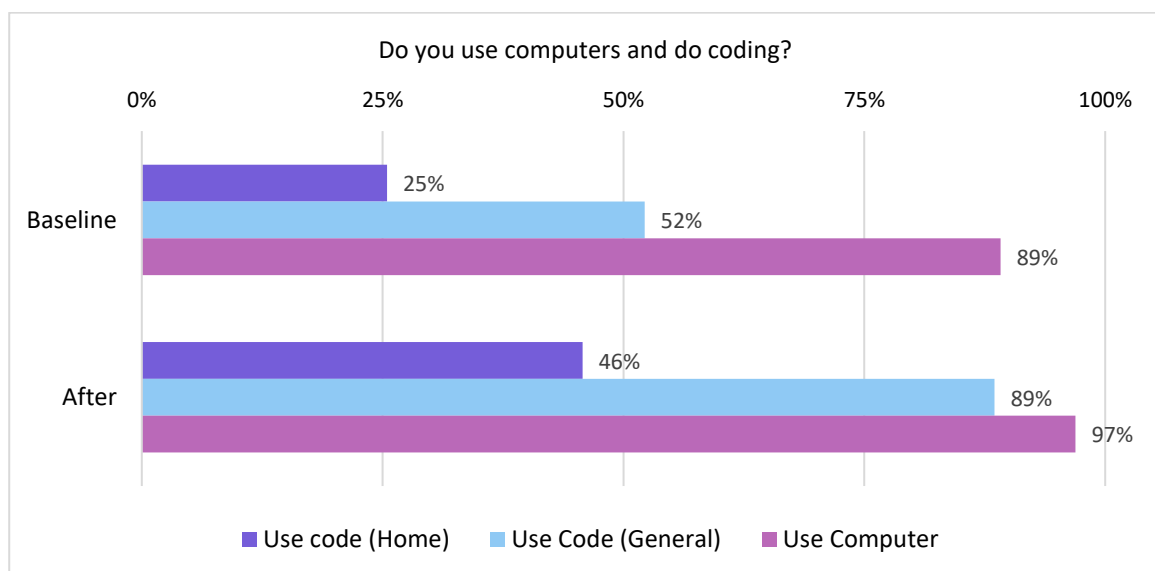### 5.4   Impacts & Outcomes for Beneficiaries

A short baseline survey was distributed to pupils participating in the scheme prior to its roll-out. This attempted to gauge the extent to which these children engaged with computers, and their level of awareness of coding. An update survey was distributed after their involvement. This section details the key results from this survey.

Figure 5.1: Understanding of Coding

Do you understand what coding is?

There has been a substantial increase in the proportion of participants who understood the concept of coding between pre and post project delivery.
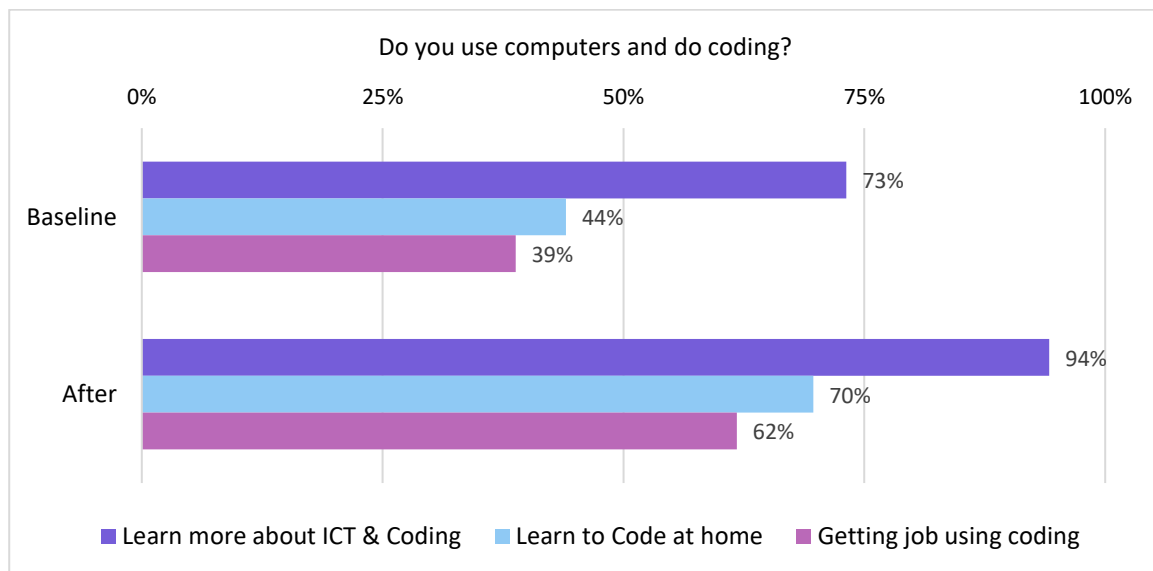
Figure 5.2: Frequency of Computer Use

Do you use computers and do coding?

The above chart clearly exhibits the impact the project has had on the uptake of ICT and coding activities among participants. Critically, it is the increase in the rate of "at home" coding activities which highlights

the success of the scheme. This demonstrates that coding activities are being carried out by a significant number outside the core hourly sessions provided through this scheme. This would suggest it has generated a real interest in coding as an activity among these children.

Figure 5.3: Interest in Future Coding Activities

As demonstrated, there was an increase in interest stated across all parameters shown. Notably there was a substantial increase in those stating they wanted to do a job that involved coding.

5.5 Key Successes

In terms of key successes, the pilot Time to Code initiative has:

- Provided 533 children from disadvantaged areas with the chance to participate in the learning of coding within a school time setting, an opportunity many would otherwise been able to take advantage of

- Delivered tangible improvements in these participants' awareness and interest in coding, as well as developing interest in ICT and coding within their future career choices

- The scheme has proven itself as an effective model for the delivery of coding in a classroom setting with demonstrable effectiveness in achieving targets set during project conception

- The scheme also, at this indicative stage, represents value for money in terms of the number of participants engaged and the impacts on these participants, for the level of investment committed

"Overall I felt the project was a great success. The children took a lot out of it and developed their knowledge of coding immensely. I hope the project continues in the New Year and would love to allow another class in my school to experience it" – Principal, St. Teresa's Primary School

6   CONCLUSIONS & RECOMMENDATIONS

6.1   Introduction

In this section we detail our overall conclusions on the pilot Time to Code initiative, as well as offering our recommendations towards the future of the programme, given the evident appetite for its continuation.

6.2   Evaluation Conclusions

Primarily Time to Code has proved itself as a new and innovative approach at plugging an identified gap in the teaching of coding at a KS2 level. In the absence of coding on the core curriculum children, Time to Code provides an effective redress to the gap in opportunities for coding experienced by children, typically from more disadvantaged backgrounds, unable to avail of afterschool or weekend coding clubs.

It is our opinion that Time to Code has proven itself as an effective intervention that represents value for money in terms of its investment and generated impacts. As a result, we see significant merit in project continuation within its current guise and, if possible, expansion following the identification of a preferred option for future delivery. Recommendations for this are detailed in the following section.

6.3   Our Recommendations

- BITC should develop a feasibility study / options appraisal of the current avenues for project continuation being considered. This will provide them with a robust evidence base on which constitutes the best preferable option balancing impacts with cost of delivery

- BITC should explore avenues to lever in public / departmental funding for extended / expanded programme delivery. They will need to demonstrate the key linkages between the project activities and their strategic priorities as well as the need that exists for the project

- Any use of public funding will require more rigorous evaluation which in turn will necessitate more detailed project monitoring arrangements on numbers, spend, timelines etc

- To aid this, BITC should develop clear and specific SMART objectives in future delivery to better guide management of the project, and to enable a more robust gauging of its effectiveness

- In a practical sense, there is a need to ensure schools are adequately equipped in ICT capacity prior to commencement of any future project where many of the teething problems of the pilot

- Ensure that the school representative at initial training will be the specific teacher responsible for the class who will be participating

- Either explore restricting participants to P5 and over, given prevailing opinion that course content was slightly too advanced for those P4 participants, or adjust content to suit slightly younger/less able pupils accordingly