

ABERDEEN CITY COUNCIL

COMMITTEE	Education and Children's Services Committee
DATE	23 rd May 2023
EXEMPT	No
CONFIDENTIAL	No
REPORT TITLE	Aberdeen Computing Collaborative
REPORT NUMBER	CFS/23/140
DIRECTOR	Eleanor Sheppard
CHIEF OFFICER	Shona Milne
REPORT AUTHOR	Charlie Love
TERMS OF REFERENCE	1.1.1

1 PURPOSE OF REPORT

- 1.1 This report aims to provide an overview of the Aberdeen Computing Collaborative, and highlights the collaborative's progress and next steps on taking forward the education recommendations of the [Scottish Technology Ecosystem: Review](#), with a specific emphasis on improving the delivery of Computing Science from 3 to 18 and beyond.

2 RECOMMENDATIONS

That the Committee:-

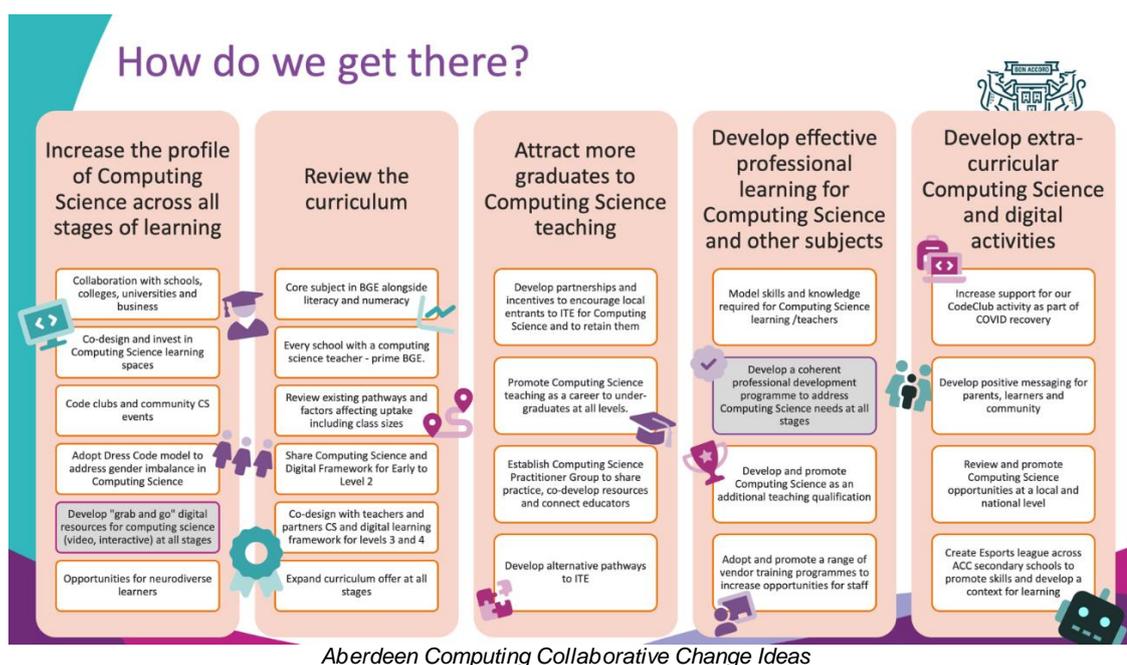
- 2.1 notes the progress made by the Aberdeen Computing Collaborative and its contributions to computing science education in Aberdeen City; and
- 2.2 instructs the Chief Education Officer to continue support for this initiative.

3 CURRENT SITUATION

- 3.1 The Aberdeen Computing Collaborative has been formed by Aberdeen City Council, in partnership with North East Scotland College, Robert Gordon University, the University of Aberdeen, and Opportunity North East. The collaborative's focus is on improving computing science education in the city, in line with the recommendations made by the [Scottish Technology Ecosystem: Review](#), written by Professor Mark Logan. The collaborative aims to make Aberdeen City a centre of excellence for computing science education and the digital sector, supporting economic transition.
- 3.2 The collaborative aims to support a coherent, innovative, and skills-based computing science curriculum from early learning to senior phase and beyond. This includes creating multiple pathways for all learners to maximize access to computing science learning and qualifications in and out of school. Focussing on the development of computer science skills will ensure that pupils across Aberdeen City are well positioned to benefit from post school opportunities.

3.3 The collaborative plans to increase opportunities for young people, develop the skills of staff and promote the sector through engagement, curriculum support and professional learning. The terms of reference for the group include these aims:

- Increase the profile of Computing Science across all stages of learning.
- Review the curriculum.
- Attract more graduates to Computing Science teaching.
- Develop effective professional learning for Computing Science and other subjects.
- Develop extra-curricular Computing Science and digital activities.



Opportunities for children and young people

3.4 The collaborative held a successful launch event in September 2022, at ONE Tech Hub, which was attended by over 250 pupils and teaching staff. The event included practical computing science workshops and professional development discussions for teaching staff. Feedback indicates that almost all children and young people attending were more likely to consider a computing science career following the event.

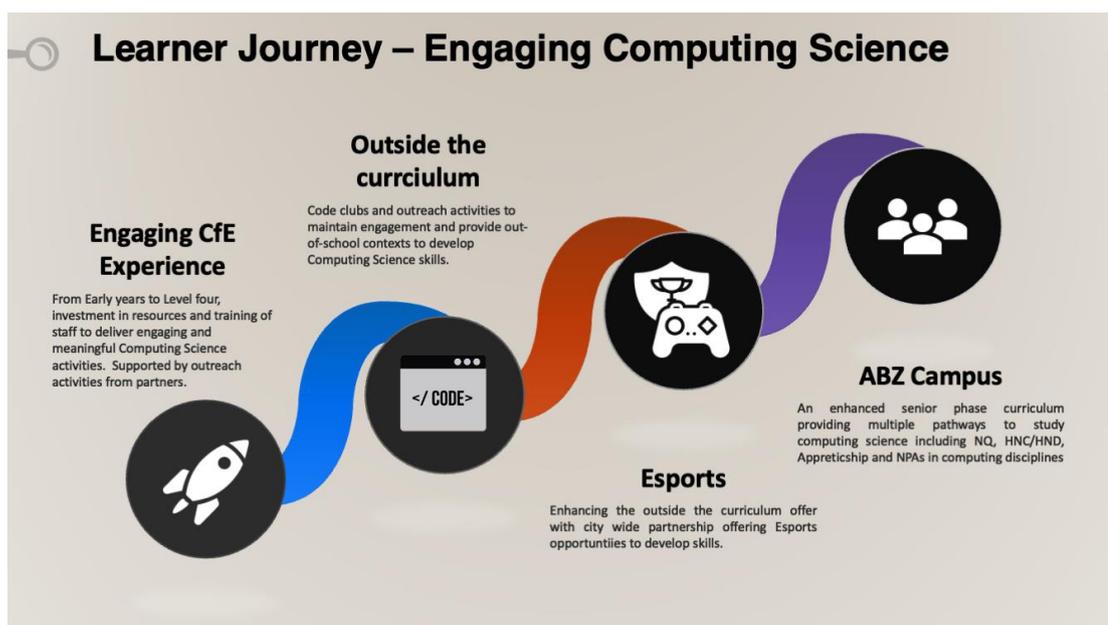
3.5 North East Scotland College, Robert Gordon University and University of Aberdeen each have outreach programmes to promote computing science both in and outside of school. These partners are currently reviewing their outreach activities to reduce overlap and increase areas for collaboration, with a view to improving the experience for children and young people attending these programmes. It is hoped that a greater aligned offer will be available to schools from August 2023 onwards.

3.6 Esports is gaining popularity as a tool for education. Esports (or electronic sports) is competitive video gaming. It is different from standard video gaming in that esports is competitive (human-vs-human) and usually has an engaging

spectator element to it, like traditional sports. We recognise the benefits of esports in education, including promoting teamwork, problem-solving, and strategic thinking. Esports can engage learners with technology and act as a gateway to interest in computing science and the tech sector. An Esports hub is being developed at St Machar Academy, which will deliver a new National Qualification in Esports at SCQF Level 4 and 5 from August 2023. Collaborative partner, North East Scotland College, will support this development by working with the central team and the staff of St Machar Academy.

Initial indications are that young people are keen to explore this area and to engage with the qualifications. Feedback from the collaborative launch event demonstrated that children and young people responded positively to gaming activities with a computing science focus.

- 3.7 Opportunity North East has made a space available to the collaborative to develop as a hub for computing science activity for senior phase pupils. This space, at One Tech Hub on Schoolhill, will provide a study location for learners undertaking advanced qualifications, a potential additional esports hub, and opportunities to embed senior phase learners, with an interest in computing science and entrepreneurship, with local tech-sector start-up companies.



Professional Learning for staff

- 3.8 The collaborative aspires to make Aberdeen City the best place to work as a computing science teacher, with high-quality learning spaces, resources, collaboration, and professional learning. Computing science is a challenging area to recruit into. The work of the collaborative is a positive driver to support recruitment in the subject.
- 3.9 To support professional development, ACC officers have created “grab and go” resources for staff supporting the youngest learners in our primary schools. A classroom teacher has been commissioned to continue production of these resources and will coordinate this development with partners.

To host these materials, ACC is developing an online platform to provide on-demand access to professional learning for teaching staff. This platform will include digital badges and awards, linked to our learning and teaching standard, to recognise the learning and achievement of staff.



Digital badges for professional learning

- 3.10 The collaborative has met with Professor Mark Logan, author of the Scottish Technology Ecosystem: Review, to welcome his reflections and on-going challenge of our work. Discussions have also considered any potential routes to funding to help address some of the national shortage in computer science teachers.
- 3.11 Funding would provide support for professional learning, including the development of resources and accredited professional learning opportunities at both University of Aberdeen and Robert Gordon University. This would include a BSc Education with Computing Science to accredit prior learning and provide a shortened route to Professional Graduate Diploma in Education to help address the national shortfall in computer science teachers.

Such funding would also allow the reinstatement of Computing Science as a subject offered as part of the Professional Graduate Diploma in Education (Secondary) at University of Aberdeen, providing opportunities to develop Aberdeen-based computing science teachers.



- 3.12 To address the local shortfall in computer science teachers, Aberdeen City has entered a separate partnership with University of Highlands and Islands (UHI), to provide a distance learning Professional Graduate Diploma in Education (Secondary) to support those in the city with an interest in becoming a Computing Science teacher. Entrants to this course will be given placements in ACC schools to encourage them to seek employment locally when fully qualified.

Next Steps

- 3.13 The Collaborative will take forward the following areas of work over the next 12 months:
- working with ABZ Campus, review the curriculum to broaden opportunities in the sector (including development of Esports and Computing Science hubs to further engagement with Computing Science).
 - develop and deliver extra-curricular Computing Science and Digital activities.
 - develop communication for parents/carers/young people to promote the opportunities in the sector and the range of pathways available for those seeking to develop careers in the industry.
 - continue the development of materials and an online delivery platform for professional learning to provide upskilling for Computing Science and other teachers, to deliver computing science from early to fourth level and beyond with the aim of increasing the number of young people completing courses aligned to support the digital and tech sector by 20% by 2026.
 - Continue to prioritise this work as part of the Aberdeen City National Improvement Framework Plan for 2023/24.

4 FINANCIAL IMPLICATIONS

- 4.1 The Collaborative continues to look for external funding opportunities to support the identified change ideas. Current developments have been funded from existing resources.

5 LEGAL IMPLICATIONS

5.1 There are no legal implications arising from the recommendations of this Report.

6 ENVIRONMENTAL IMPLICATIONS

6.1 The Collaborative's work should consider environmental implications, such as energy usage and sustainability, in the development of learning spaces and resources.

7 RISK

7.1 The collaborative's work may face risks related to funding, staffing, and implementation. However, risk assessments and mitigation plans will be developed to address these potential issues.

Category	Risks	Primary Controls/Control Actions to achieve Target Risk Level	*Target Risk Level (L, M or H) *taking into account controls/control actions	*Does Target Risk Level Match Appetite Set?
Strategic Risk	Risk of not improving computing science education for learners and thereby not supporting the digital/tech sector as part of energy transition.	Changes to our provision, both curricular and extracurricular, supported by the collaborative will promote computing science and the sector thereby reducing potential risk.	L	Yes
Compliance	None		L	Yes
Operational	Staff are overwhelmed when implementing Computing Science learning leading to low morale as staff feel unable to meet the educational needs of young people.	Professional learning and resources developed for BGE and signposting of national resources to support staff, impacting positively on skills and workload.	L	Yes

Financial	Risk of not being able to deliver aspirations with available finance.	Scope of work reviewed to match available resources.	L	Yes
Reputational	Risk that poor quality of provision will present a reputational risk to the Council	Mitigated through the establishment of a set of measures to routinely track impact over a school year.	L	Yes
Environment / Climate	None			Yes

***Note – if there are inconsistencies between the target risk level and the risk appetite level set, please provide rationale for your proposals.**

8 OUTCOMES

8.1 The collaborative's work aims to create a coherent, innovative, and skills-based computing science curriculum from early learning to senior phase and beyond, providing multiple pathways for all learners to maximize access to computing science learning and qualifications in and out of school.

8.2 Additionally, the collaborative aims to make Aberdeen City a centre of excellence for computing science education and the digital sector, supporting economic transition.

<u>COUNCIL DELIVERY PLAN 2022-2023</u>	
Impact of Report	
<p>Aberdeen City Council Policy Statement</p> <p><u>Working in Partnership for Aberdeen</u></p>	<p>The proposals within this report support the delivery of the following aspects of the policy statement:-</p> <ul style="list-style-type: none"> • With partners, we will work to improve attainment, expand curriculum choice and develop services that will secure the wellbeing that young people and their families need. • We will promote creativity and excellence and make opportunities for learning and culture more accessible. • As we strive to achieve Net-Zero, we need to work with partners to ensure a Just Transition which is fair, both economically and socially, for the citizens of Aberdeen.
<u>Aberdeen City Local Outcome Improvement Plan 2016-26</u>	

Prosperous Economy Stretch Outcomes	The proposals within this report support delivery of the LOIP Stretch Outcome “500 Aberdeen City residents upskilled/ reskilled to enable them to move into, within and between economic opportunities as they arise by 2026” specifically the Improvement Project Aim - <i>Increase the number of people within Aberdeen City gaining qualifications in ICT and Digital skills at SCQF Levels 7 and above by 10% by 2023.</i>
Regional and City Strategies	The work of Aberdeen Computing Collaborative is reflected in the Children’s Services Plan for 2023-26.

9 IMPACT ASSESSMENTS

Assessment	Outcome
Integrated Impact Assessment	Not required
Data Protection Impact Assessment	An information sharing agreement will be established with partners under the current Grampian Children & Young People Information Sharing Protocol.
Other	Not applicable

10 BACKGROUND PAPERS

- 10.1 [Children's Services Strategic Plan 2023-2026](#)
- 10.2 [Local Outcome Improvement Plan 2016-26](#)
- 10.3 [Scottish technology ecosystem: review](#)
- 10.4 [Regional Skills Strategy – Aberdeen City & Shire](#)

11 REPORT AUTHOR CONTACT DETAILS

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