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Taighde Éireann Research Ireland



Impact Report 2021-2024

OurkidsCo

Cover photo taken at an OurKidsCode Family STEAM Fun Day in November 2024 at T.U.S., Thurles. Credit: Niamh Tiernan

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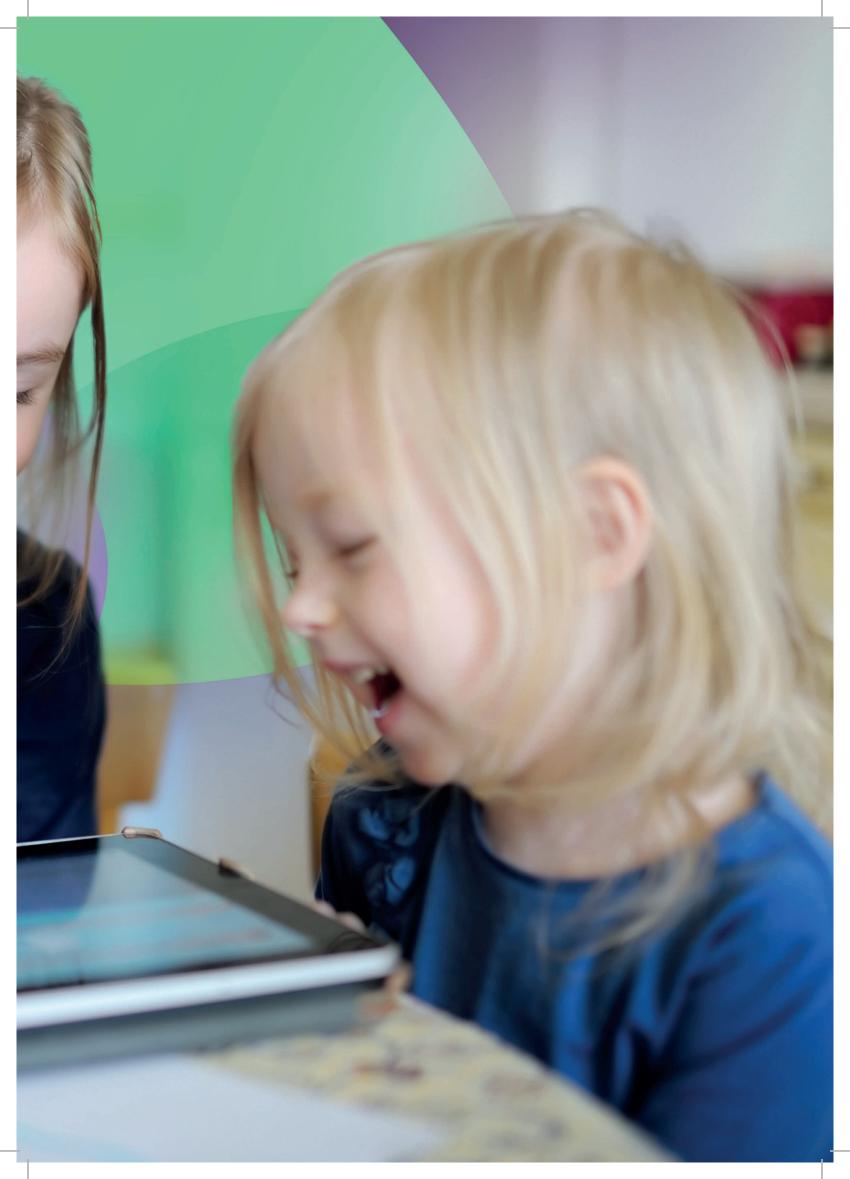
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Foreword by Dr. Linda Doyle

Provost and President, Trinity College Dublin



It is an absolute pleasure to write this foreword for the OurKidsCode Impact Report 2021-2024.

As technology continues to play an increasingly central role in our daily lives, it is essential that people of all ages are not simply passive consumers of the digital world, but are empowered to engage with it – and to shape it. OurKidsCode is a truly inspiring initiative that helps families do exactly that.

From coding workshops for Ukrainian families in Co. Clare, to the Start a Club initiative in Clondalkin, to the Boher Bytes family coding club in Co. Tipperary, the reach and impact of OurKidsCode has been nothing short of remarkable.

I want to warmly congratulate and commend Dr. Nina Bresnihan, the founder of OurKidsCode, and her dedicated team, for the incredible work that has brought the programme to this point.

So many aspects of OurKidsCode stand out: the meaningful involvement of parents in their children's learning journeys; the strong, inclusive ethos; the focus on rural communities; and the depth of collaboration with local authorities and community partners.

The results speak for themselves: Over 5,000 participants attending 688 facilitator-led workshops in 111 locations across Ireland. These are impressive numbers – but perhaps even more powerful is the voice of one young girl quoted in this report: "I am very, very, very happy." That simple statement speaks volumes about the joy, confidence, and connection this programme fosters.

Congratulations to everyone involved in this initiative. I look forward to seeing OurKidsCode continue to grow and thrive in the years ahead.

Gura fada buan sibh go léir. Dr. Linda Doyle

Message from Dr. Nina Bresnihan

Assistant Professor, School of Computer Science and Statistics, Trinity College Dublin



Welcome to our Impact Report for OurKidsCode. We are thrilled to share the exciting progress and outcomes of our initiative, designed to inspire creativity, enhance computing skills and build stronger family and community connections through coding.

At the heart of this project is the belief that parental involvement is essential in shaping a child's educational journey. By actively engaging in the learning process, parents not only help nurture their child's curiosity and problem-solving skills but also foster a deeper connection to technology and creativity.

Through hands-on coding experiences, families have learned together, breaking down digital barriers between generations and creating a shared foundation for learning that extends beyond the classroom. The stories within this report reflect the power of collaboration, with parents and children growing together as they explore the possibilities of creative coding. We are proud of the impact that this programme is having all over Ireland and we're excited to continue to empower parents to play an active role in their children's educational development. We would like to offer a huge thank you to our partners and supporters and we look forward to continuing this journey of learning, creating and innovating with you.

Project Lead, OurKidsCode

About Us

OurKidsCode has developed a model for family STEAM (science, technology, engineering, arts and mathematics) engagement. We provide hands-on creative coding workshops under the guidance of trained facilitators.

Our workshops are friendly and informal places for primary-aged children and their parents and guardians. By blending technology with games, arts and crafts, participants not only develop coding skills but also create exciting projects that bring their ideas to life to demonstrate the fun and enjoyable rewards of creative computing.

Learning together allows parents and guardians to stay connected with technology, building their confidence and skills alongside their children. When parents and guardians show enthusiasm for STEAM, they inspire their children to be curious, to explore and to get excited about these subjects. That enthusiasm is contagious!

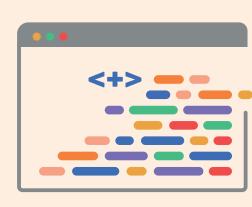
We support communities throughout Ireland by offering a four-part Start A Club programme designed to help them establish and run family-led creative coding clubs, including in rural areas where STEAM activities are typically difficult to access.

All OurKidsCode activities are underpinned by ongoing research.

What is Creative Coding?

Creative coding blends technology with arts and crafts. It is the playful use of programming to make art, stories, or interactive projects, often combining digital and hands-on elements like drawing, crafting, or building.

When families do creative coding together, it becomes a fun, collaborative way to explore technology and creativity - blending digital skills with imagination and making. With creative coding, time spent on a computer is not just about passively consuming media content or playing games; it's about actively using technology as a tool for selfexpression, problem-solving and teamwork.





Our Origin Story

In 2012 a group of friends started to regularly gather with their young children around a kitchen table in North Dublin in order to tinker with technology. They played with Scratch and MakeCode, ordered some Raspberry Pis and Makey Makeys, and they made stuff together.

They all enjoyed it so much that they wanted to get others involved so they talked to the children's school, D7ET, about volunteering to run an afterschool session. The school provided the support they needed, posters went up and it was completely over-subscribed. Long waiting lists led them to look for further parent volunteers to help run more sessions. These included Nina Bresnihan and Glenn Strong.

The school, seeing how successful the programme was, asked the parents to train the teachers in the use of the various technologies and work with them to integrate them into the curriculum. The teachers started to get the children to create such things as mathematics games and multiplechoice quizzes for geography and Irish using Scratch. Within the space of just a few short years, we observed how a group of parents had gone from tinkering with their families on a Sunday afternoon to integrating coding into the curriculum in a school of over 500 students.

The idea that getting parents involved in their children's coding education can have powerful results inspired the development of the model for familybased creative coding that lies at the heart of OurKidsCode.





Project Timeline

Founded in 2017, the OurKidsCode project is based in the School of Computer Science and Statistics at Trinity College Dublin (TCD). We are funded by Research Ireland under its Discover Programme.

Our initial funding enabled us to develop and test our model. The project launched in 2018 with a oneoff family creative-coding workshop, followed by the development of a four-part Start A Club programme in 2019. We worked with multiple schools, facilitators and families to test and refine these, gathering evidence for the project's principles, workshop design, and materials.

In 2020 with a two-year funding award from Research Ireland, the Covid-19 pandemic forced us to quickly adapt our workshop design for an online format. We worked in close partnership with the National Parents Council and reached families in every county in Ireland while navigating multiple lockdowns.

In 2021 the Department of Rural and Community Development came on board, funding OurKidsCode workshops in the rural broadband connection point (BCP) network of community centres. Since then, we have established partnerships with Broadband Officers in 15 county councils across Ireland, linking with existing county-level activity, building a network of local facilitators to deliver workshops and supporting families in our growing number of fledgling OurKidsCode clubs. We began to deliver fully in-person from late 2022, and we started to see our first signs of self-sustaining, family-led activity in early 2023.

In 2023 and 2024 we partnered with Microsoft Dream Space to provide an opportunity for our rural clubs to come together to enter the Dream Space Showcase Event. This partnership has been instrumental in offering families in clubs an exciting target to work towards. Clubs design and create projects that matter to their communities, with many directly addressing the UN Sustainable Development Goals.

It has been a true joy for our team to witness the ambition, creativity and spirit of collaboration of the families in their clubs. Our team is inspired by the continuation and development of the skills introduced in our workshops. Families challenge and inspire each other to continue to grow and learn together in their local communities.





Our Impact In Numbers

Impact on Attitudes and Behaviours



83% of participants reported increased confidence with computing.



Advocacy Rate: 79% of participants spoke to others about the programme.



Family Engagement Rate: 64% of families engaged in follow-up computing activities.



Desire to do more: 98% reported at least some readiness; 84% felt either "Quite ready" or "Very ready".



25% discussed computing as a subject choice or career option with their child.

Note: Data based on follow-up survey on parental behaviours and attitudes - 6 months post participation, to end of 2024

29% Bemale Adult 26% Bemale Child 32% Male Child 11% 29% Prefer not to say

Gender Breakdown of Participants

Note: Data based on Reaction Forms completed during workshops

Participation and Engagement Totals







Broadband Connection Point Centres

Libraries and other





All Time Club Continuation Data 2021-2024



% of groups who **met again at least once**.





% of groups who **met again at least five times**.

Note: Excludes library data (as we did not aim to set up clubs in libraries, programme was modified for 'camps'). This number is not a full reflection of the continued activity as we are aware of significant underreporting of this activity by our families.

Case Study Family STEAM Fun Day T.U.S., Thurles

Partnering with Pamela O'Brien in T.U.S. (Technological University Shannon), Thurles and Tina Mulhearne in Tipperary County Council, we held our first Family STEAM Fun Day on 16th November 2024 as part of Science Week. OurKidsCode alongside partners and collaborators offered an interactive day of digital learning and fun for 141 adults and 188 children.

An exciting programme of activities featured hands-on workshops, coding challenges, robotics and creative projects, designed to inspire children and parents alike.

Here's a selection of some of the activities on the day:

Dance Mat by OurKidsCode facilitator Martina Gilmartin

Participants learned how to craft their very own dance mat using Makey Makeys, which are circuit boards that you plug into your computer and that act like a keyboard.

Frosty the Snowman by OurKidsCode facilitator Ann Kinsella

Children got to code a snowman to move, dance, make snow and music using Scratch, a visual programming language and website aimed primarily at children as an educational tool.

Make Code Arcade by OurKidsCode facilitators Corrib Coding

Families designed their own 2-D character and world using pixel art and had the opportunity to learn the basics of block coding by using blocks to move their 2-D characters around a maze to collect coins and earn a score each time.

Connective Detective by Academy of the Near Future, Connect, TCD

Participants got to dive into the fascinating world of smart cities with this interactive workshop, "Build Your Own Smart City". The hands-on experience invited participants to explore the concept of smart cities in a fun and imaginative way using micro:bits programmable devices, Lego and recycling material to build their own smart city.

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Sensational Science with Sarah Clear from Rediscovery Centre

Families had the chance to learn about how science helps make the world a better place through hands-on investigations and captivating experiments.

Pytch, School of Computer Science & Statistics, Trinity College Dublin

Families created a simple Space Invadersstyle game using Pytch, a free web-based coding environment co-created with teachers and students. Developed by a team from Trinity College Dublin and the Technological University of Dublin, Pytch is designed to help learners move on from block-based programming (like Scratch) to the text-based programming language Python.

Lego Robotics by OurKidsCode facilitators Corrib Coding

Building robots with Lego and coding them to perform tasks enabled participants to work with motors, sensors, lights and sounds, and use picture-based block coding to give them instructions.

Microsoft Dream Space – Do your bit challenge – Showcase 2025

Families were inspired by Michael Barrett to learn about ways to get their school and club involved in the Microsoft Dream Space journey to submit projects for the 2025 Dream Space Showcase event.



Part 2 What is a second second

more

Our Purpose & Rationale

OurKidsCode is committed to increasing opportunities for parental involvement in children's computing education and contributing to greater diversity in the field. We achieve this by providing meaningful STEAM learning opportunities for families with primaryaged children. From 2021-2024 we had a particular focus on rural communities where access to such initiatives is often limited.

As STEAM education continues to grow in schools across Ireland - including at primary level - there is an increasing emphasis on preparing young people for future careers in STEAM-related fields[1]. However, for children to develop confidence and interest in these areas, they need support not only in the classroom but also from their families and communities. Research has shown that parental and community involvement is a key factor in children's academic success, influencing both their attitudes toward learning and their career aspirations[2]. When parents and guardians feel equipped with the knowledge and confidence to engage in their children's education, they can provide meaningful encouragement, challenge stereotypes and foster a lifelong interest in STEAM subjects.

Despite the recognised importance of parental involvement, many parents - especially those in rural areas - lack access to opportunities that would allow them to develop skills in computing, coding and digital literacy. This gap can leave families feeling disconnected from their children's education and unprepared to support them in exploring STEAM subjects. That is why a central part of our work at OurKidsCode is to support communities across Ireland in establishing creative coding clubs. These clubs serve as welcoming, inclusive spaces where families can learn together, develop new skills, make new friends, and build confidence in a supportive environment.

A core pillar of OurKidsCode is promoting access to learning opportunities for all children, regardless of gender, socioeconomic background, or geographic location. Gender inequality remains a significant challenge in STEAM education and careers, with persistent stereotypes such as the false belief that boys are naturally better at maths, engineering, and technology - discouraging girls from pursuing these fields. By challenging these misconceptions and fostering inclusive learning environments, we aim to support more girls to develop confidence and enthusiasm for STEAM subjects from an early age. Mothers who are involved in coding or STEM can serve as powerful role models for their daughters, demonstrating that STEM is a viable and rewarding path.

Additionally, we are committed to supporting marginalised groups and displaced families in Ireland. For many families in these communities, particularly in rural Ireland, opportunities to engage with STEAM education are limited due to language barriers, lack of resources, or social exclusion[3]. By creating accessible, community-driven initiatives, we strive to break down these barriers.

At OurKidsCode, we believe that when families, schools and communities work together, we can create a more inclusive, diverse and equitable future in computing and STEAM education. 17

Policy Connections

OurKidsCode aligns with multiple national, EU and international policies, including Ireland's Digital Framework[4] and STEM Education Implementation Plan[5].

The project also supports rural development goals outlined in the Our Rural Future: Rural Development Policy^[6] and contributes to digital literacy objectives in national education policies^{[7],[8]}.

Our Values





Fun

Ensuring enjoyable experiences to build confidence:

We care deeply about fun! If families are having fun, they will feel more confident and want to do more.

Collaboration

Recognising the importance of family and community in learning:

OurKidsCode sees learning as a social process, recognising the importance of the broader community outside of the family. In our workshops, family members collaborate with each other but also work with other families, sharing their expertise, challenges and triumphs. With partner support, we are building relationships and working collaboratively with county councils across Ireland to encourage and support families to continue to meet as family-led clubs, successfully establishing self-sustaining STEAM activity.

Learning Developing a sense of

connectedness through shared creative outputs:

Bringing families together to work towards a shared creative output develops a sense of connectedness and fun, promoting inclusivity and building confidence. At the centre of our workshops are creative technical challenges combining coding and 'making' activities, designed to encourage family members to take on different roles such as designer, coder, project manager, quality control and crafter.

Inclusion and Equality Supporting building a diverse talent pipeline:

The lack of diversity in the technology sector is a problem for industry and society. We all miss out on the benefits that a diverse workforce brings, from increased innovation to better products. OurKidsCode is committed to supporting and nurturing a more diverse talent pipeline. This is not merely a matter of fairness – it is a driver of success.

Primary-level initiatives are crucial as girls' attitudes towards their own capability develop very early. Our experience to date shows that targeting families is an effective way to attract female participants. Providing girls with early exposure to coding has been shown to increase girls' participation in STEAM. Our activities are designed to be inclusive, with the 'making' or craft element broadening their appeal.

Rural Communities

Most of the OurKidsCode families are first-time STEAM event or programme attendees, as there have been no previous opportunities in their rural localities or interventions available in their communities.

Research Ongoing evaluation to deliver

findings and report on impact:

Monitoring and evaluating the experiences of all participants (parents, children, facilitators, partners and stakeholders) ensures we are continuously refining our programme design, leveraging our research aims to deliver findings, and reporting on our impact across multiple policies at county, national, EU and international levels.

Our Team

The OurKidsCode team supports a growing community of families, facilitators and partners across Ireland. Our research is led by Dr. Nina Bresnihan along with Glenn Strong and Dr. Richard Millwood. Our Programme Manager is Louise Caldwell and Mary O'Mahony manages our facilitator training and development.



Dr. Nina Bresnihan Project Lead



Louise Caldwell Programme Manager



Dr. Richard Millwood Research Lead



Glenn Strong Development Lead



Mary O'Mahony Training Co-ordinator



Our Steering Committee

Dr. Aibhín Bray Assistant Professor in Mathematics Education, School of Education, Trinity College Dublin, The University of Dublin

Áine Lynch Chief Executive Officer, National Parents Council

Amanda Jolliffe Microsoft Dream Space

Dr. Brendan Tangney Professor in Computer Science, School of Computer Science and Statistics, Trinity College Dublin, The University of Dublin

Dr. Clare McInerney EPE Programme Manager, Lero

Cormac McCann Broadband Officer, Meath County Council

Elizabeth Oldham Adjunct Assistant Professor in Mathematics, Trinity College Dublin, The University of Dublin

Mags Amond (Steering Committee Chair) National Executive, Computers in Education Society of Ireland **Michael McCann** Parent in Bective Future Coders OurKidsCode Club, Co. Meath

Nicola Welford Chairperson, Boher Community Development Group & Boher Bytes OurKidsCode Club Leader

Rona Toft Parent and Founder of Rossmore Scratchers Coding Club, Co. Tipperary

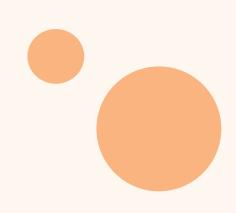
Timothy Ollry Department of Rural & Community Development

Urban McMahon Head of Information Systems, Digital and Broadband Department, Clare County Council

Verónica Gebhardt Programme Manager, Education Outreach, Google

Aimée Fagan Head of EMEA, Micro:bit Educational Foundation





Case Study Equal Access South Dublin County Partnership

OurKidsCode worked with Dr. Grace Lawlor, the DEIS Community Facilitator in South Dublin County Partnership (SDCP), to pilot a programme to bring creative family coding workshops to parents in Clondalkin.

In March 2024, facilitator Mary O'Mahony trained three SDCP staff and three teachers from St. Bernadette's National School in Clondalkin to deliver the four-part Start a Club programme. Grace then teamed up with Michael Barrett from Microsoft Dream Space and the teachers to deliver an OurKidsCode taster workshop to two groups of families in fifth class, while the children whose parents couldn't attend did the same creative coding project, so that they didn't miss out on the fun.

Grace and the teachers reported that the families really enjoyed the experience and that there were great benefits in terms of family engagement with the school, parent-child interactions and exposure to technology in a supportive and fun environment. One boy said, "I liked that you didn't have to have gone to college to do it," a brilliant example of how engaging children in creative coding at a young age can bust stereotypes of STEAM as difficult or inaccessible.

Following the success of that initial event, Grace has delivered further workshops to parents in the school and in nearby Quarryvale Community Centre.



"I witness plenty of delight, joy and playfulness – parents surprising themselves and learning and having fun"

Dr. Grace Lawlor



"OurKidsCode workshops are a buzz even for adults, but it's the kids that get to the root of the problems and the kids enjoy showing the adults how to get the job done!

What I enjoy most are the dynamic family activities, the happy noises of people absorbed in a challenge, and parents being surprised by their children. I witness plenty of delight, joy and playfulness – parents surprising themselves and learning and having fun; children enjoying involving their parents in their learning.

I think the approach of involving parents is key to the values of the project and to the benefit for communities, particularly those in areas of socio-economic disadvantage."

Dr. Grace Lawlor, DEIS Community Facilitator, South Dublin County Partnership (From left) Kerri Delaney from the South Dublin County Partnership Children and Family Team and Chloe O'Gorman, a class teacher at St Bernadette's Senior National School, Quarryvale, Clondalkin, Dublin 22



Case Study Integration

Ukrainian Family Pre-Engagement Pilot Project, Co. Clare

Between early 2022 and February 2025, approximately 112,000 Ukrainian refugees arrived in Ireland due to the ongoing conflict in Ukraine. About 75% are women and children, with 29% aged under 14, and they have been disproportionately hosted in rural areas[9]. These demographics face unique integration challenges, including limited access to digital learning opportunities.

In 2024 OurKidsCode rolled out a pilot preengagement project to gauge the potential for OurKidsCode as a route to integration for Ukrainian families in Co. Clare.

The project was a partnership between OurKidsCode and Clare County Council, Clare Local Development Company, North West Clare Family Resource Centre and West Clare Family Resource Centre.

The pre-engagement phase began in April 2024, with a series of stakeholder meetings, during which the scope and practicalities of the project were discussed and agreed upon.

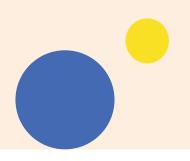
We developed a training programme and delivered it to two Ukrainian translators/ co-facilitators, and the project culminated in the delivery of two four-part Start A Club family creative coding programmes to 10 Ukrainian families in Kilkee and Lisdoonvarna between 29th October and 1st November 2024. All the workshops were observed by OurKidsCode researchers, facilitators and the Ukrainian co-facilitators.

To evaluate the pilot project, focus group discussions with families in both Kilkee and Lisdoonvarna took place on the last day of the programme, pre- and post-programme family questionnaires were completed, and a post-programme debrief meeting with the Ukrainian translators/co-facilitators took place. The picture that emerges from the postworkshop reactions is very positive. The participants overwhelmingly reported being able to join in and have fun. They also reported a good level of understanding of the activities and confidence in their ability to code. All participants would like to do more.

Overall, this pilot programme was a very successful collaboration between stakeholder partners and achieved its aim to gather information that could inform future OurKidsCode programmes targeted at Ukrainian families.

Parents said they could see great potential for OurKidsCode clubs to be a vehicle for integration. The assessment instruments used produced a wealth of feedback on what worked and where there is room for improvement.

The workshops were well-supported by stakeholders on the ground and the OurKidsCode team is grateful for the enthusiasm and support of Clare County Council for the project. We also wish to particularly acknowledge the hard work and invaluable contributions of the two Ukrainian translators/co-facilitators, Anna Kramarenko and laroslav Muraviov.



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"It would be great to have such classes on a permanent basis."

Woman

Next Steps

The success of the four-part Start A Club programme in the two Co Clare locations, Kilkee and Lisdoonvarna, suggests that OurKidsCode could be a valuable vehicle for integration of displaced families into their local communities.

OurKidsCode plans to provide further supports for both groups and reconvene the stakeholders to discuss how best to action the findings of this pre-engagement pilot for the benefit of Ukrainian families in Co. Clare. "I would like to continue coding."

Boy

"Amazing meetup."

sCode

"Nice to see happy children." Woman

> "My daughter enjoyed, and me too."

Woman

"I very, very, very

happy." Girl

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Part 3 OUR **Strategy** 2021-202



Our Activities

The OurKidsCode project involves four core areas:





The design and delivery of family creative coding workshops and a four-part Start A Club programme. The establishment and support of parent-led family creative coding clubs. Building an infrastructure and partnership network for workshop delivery and club support.



The development and dissemination of best practices through ongoing academic research.

OurKidsCode is designed to be a nonformal education project. Workshops, creative coding clubs and events happen outside the formal education curriculum in school buildings during after-school hours, in rural community broadband connection point (BCP) centres, libraries and family resource centres.

Our work is aimed primarily at parents and guardians, with primaryaged students being our secondary audience. We recognise the potential for parents to play a significant role in initiating and sustaining interest in computing. We provide support for those who wish to undertake this role but feel they lack confidence, knowledge and skills.

More broadly, ensuring citizens have the skills required to fully participate in a digital society and evolving job market is a priority. As well as technological literacy, the World Economic Forum's Future of Jobs Report (2023) highlights an urgent need for analytical thinking and creative problem-solving across all industries[10]. In Ireland, the current national digital strategy, Harnessing Digital – The Digital Ireland Framework, outlines the Irish Government's intentions to encourage more of the population, particularly young people, to engage in STEAM[4].

While schools are increasingly providing STEAM learning opportunities, informal learning activities are recognised as providing an important supplement to the formal learning of science. Successful informal science learning experiences not only lead to an increased knowledge or understanding of science but also to further inquiry, enjoyment, and a sense that science learning can be personally relevant and rewarding[2].

Our Research Focus

All OurKidsCode activities are underpinned by ongoing research. This has enabled us to develop a secure evidence base for best practice in supporting parental involvement in computing education and provides confidence that we provide a robust and effective model.

Families can build on initial direct guidance materials and design to continue the action and the conversation around computing, and to explore further activities without the need for technical expertise.

The project employs a mixed-methods research methodology utilising a design-based research (DBR) approach. DBR involves iterative cycles of problem analysis, development of solutions, evaluation and testing, documentation and reflection.

Research cycles or 'design experiments' to date have resulted in Design Principles and a Workshop Activity Model; our four-part Start A Club programme model; a facilitator training framework; and an insight into systematic issues of scalability and sustainability. These elements have been the subject of design, testing and refinement across different contexts in collaboration with stakeholders.

Sample workshops were developed to meet the identified goals and objectives. These were designed in line with our Design Principles and followed the Workshop Activity Model. Initial piloting of these 'taster' workshops in various after-school contexts (urban and rural, DEIS and non-DEIS) found that participation succeeded in initiating engagement and led to increased confidence and readiness to partake in future activities.

A further research cycle piloted the four-part Start A Club programme designed to foster self-reliance and support further ongoing selfdirected activity. This continues the

emphasis on collaborative family learning and consists of four 1.5hour sessions delivered to a group of families weekly over four weeks. In order to build further confidence and autonomy, OurKidsCode aims to foster a supportive community of learning among participating families. Scaffolding is employed to gradually increase the responsibilities of the participating families, and decrease those of the facilitator, with the aim of enabling them to become independent of the facilitator by the end of the programme and continue as a family-led club.

Our research to date shows positive results for parents' and guardians' attitude to STEAM learning with their families and significant increases in their confidence to do so.

Our ongoing evaluation provides further evidence that the workshops succeed in promoting and supporting families' interest and creative activity in computing and the learning collaboration between parent and child.



Parent Survey

In 2018, with our partners the National Parents Council, we surveyed 1,228 parents and, among other findings, established that parents want to learn about computing together with their children.

The survey revealed that parents strongly value computing education, with 95% agreeing or strongly agreeing that every child should have the chance to learn about computing in primary school. They also recognise their own role in this learning process and are eager to be involved. Specifically, 68% believe it's important to learn new computer-related skills they can share with their families, and 77% expressed interest in spending time with their child while they learn about computers.

Parents are motivated by a variety of reasons: 84% want to help their child grasp programming concepts; 94% believe it's essential to teach their child about the impact of computers in society; and 84% would like to support their child in exploring future careers in computing or technology.

However, despite this enthusiasm, only 15% of parents regularly organise computer-related activities with their children. The findings suggest that although parents are eager to support their children's computing education, they often feel underprepared or lack confidence in their own knowledge and abilities. They were supportive of interventions, such as the OurKidsCode model, involving creative, collaborative family workshops aimed at boosting confidence in computing.





Agree or strongly agree that every child should have the chance to learn about computing in primary school





Parents who **regularly organise** computer-related activities with their children

Design Principles

- The interventions should be collaborative within families and include suitable roles for different family members to play.
- 2. The interventions must **bring multiple families together** to encourage inter-family support and communication.
- 3. The interventions should consist of **structured** activities.
- 4. Parents' / guardians' and children's **input should be invited**, and their existing knowledge and expertise recognised. They should be given the opportunity to become more active in planning and structuring the activities as the intervention progresses.
- 5. The interventions should **use computers as creative tools** and lead to the making of a meaningful artefact.

- 6. The **outcomes** of the intervention should be celebrated and shared.
- 7. The interventions should be structured to include ongoing dialogue about what is being learned. Time should be reserved for collaborative reflection to complete the learning experience.
- 8. The interventions should encourage and support **the pursuit of further activity**, as a family unit or along with other families.
- Interventions need to consider the availability and design of a suitable learning environment and technical infrastructure for their implementation and for any future ongoing activity.

Our Workshop Facilitators

OurKidsCode recruits independent facilitators from around the country to deliver workshops in their area. We have developed a three-part facilitator training programme and also provide facilitators with further online training for continuing professional development (CPD) as well as ongoing support. We provide a facilitator handbook and toolkit that we have specially developed.

The total number of facilitators we have trained, up to end-2024, is 100.

Several of our facilitators began with OurKidsCode as parents taking part in our fourpart Start a Club programme, went on to lead their own clubs and then availed of our training programme to become facilitators and share their enthusiasm for family creative coding fun with families in other locations. Others have come from community, education, family resource or STEAM backgrounds, and all are Gardavetted, qualified trainers who share our passion for providing families with opportunities to be creative and have fun together. As well as being essential to our national reach, OurKidsCode facilitators are integral to our research and data collection. They facilitate families to provide reaction data at the end of each workshop and they note their observations and suggest opportunities for improvement after each session. As well as providing vital developmental input for the project, their evaluations provide an opportunity for reflective practice and inform future CPD offerings. Their experience of delivering the OurKidsCode model with families on the ground adds invaluable insight to our programme development and some facilitators have even taken an active role in materials' development.

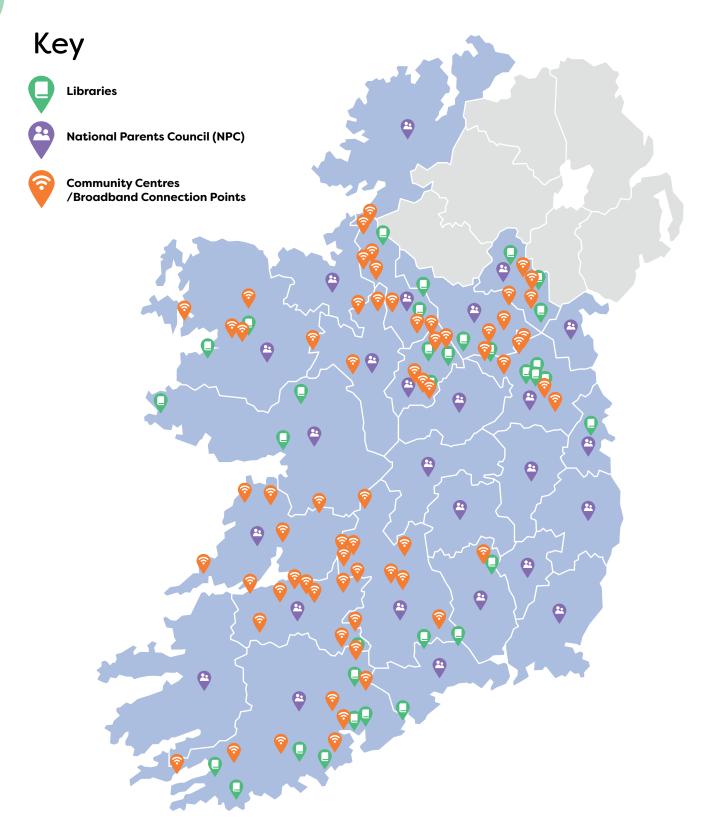
What Some of Our Facilitators Have to Say:

Having a county-level, local contact is important – that's what the families are saying. It's important in the early stages – they need somebody they can call on or touch base with and feel they have a right to do that." Siobhan Grealy, OurKidsCode Facilitator, Co. Longford

"The participation and engagement of families took a while to get going – I have my doubts that it would have kept going without my input and support presence at the sessions. Towards the end I was doing very little handson - the parents slowly took over the reins." John Finnegan, Volunteer Club Leader, Co. Tipperary "I've observed parents and children happily engaging in a shared task, having a lot of fun, and making positive connections with other families. I've seen parents and children with zero skills successfully complete a coding challenge and feel a fantastic sense of achievement."

Mary O'Mahony, OurKidsCode Facilitator, Co. Cork

Our Geographical Reach



*National Parents Council registration was also rolled out directly to families in every county in Ireland (online) during the COVID-19 pandemic and in 2024 to some schools.

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Case Study Rural Locations Co Tipperary

Optimising digital opportunities for our rural communities is very important and Co. Tipperary is one example of how OurKidsCode works with our partners to facilitate workshop delivery and club support in rural locations.

The OurKidsCode programme has already built a strong foundation in Co. Tipperary using a wide range of stakeholders, including Microsoft Dream Space, the Department of Rural and Community Development, Tipperary County Council, Technological University of the Shannon (T.U.S.), several participating national schools and the Tipperary BCP (broadband connection point) network.

This collaborative effort has demonstrated a unique and sustainable way of engaging with our local rural communities in digital education, as it promotes creative computing and an environment for parents and guardians and their children to work together in the use of digital technologies. Speaking about the OurKidsCode partnership, broadband officer with **Tipperary County Council Simon** Howe said: "Tipperary County Council is committed to working with all stakeholders to continue to deliver and grow the excellent OurKidsCode programme in Co. Tipperary. Ireland's Digital Strategy promotes the use of digital technologies and actions the supporting of communities and stakeholders to progress the development of services including digital programmes that will provide citizens who have little or no digital skills with confidence, motivation and skills to benefit from digital technologies. This includes community engagement initiatives to increase and support BCP [broadband connection point] hub activity. The Tipperary BCP network supports and complements the development of a national hub network, which is a key action of the Government's Rural Development Policy 2021-2025[4]. One example of how we do this is by supporting local clusters of digital potential, i.e. coding clubs, e-health, precision farming, e-tourism, among others."



Boher Bytes, Co. Tipperary

Boher Bytes is an OurKidsCode family coding club located in rural Co. Tipperary in a community centre next to the local primary school. In the words of its volunteer leader Nicola Welford, the club is "easy going, friendly, fun, social and inclusive, with a variety of projects that enable families to get crafty with code".

Speaking about what she believes are the factors that have made the club a success, Nicola said: "From my experience, I think BCPs [broadband connection points] in rural communities are key to its success - the buy-in and interest is stronger; families appreciate it more; and it's easier to connect and bring people together. It has been a great addition to our community. "We are lucky that our hub is next to a

school, and we have built a great relationship with it and the teachers. The school did the recruitment for us, as it was really their kids that applied. Although none of the teachers are involved in the workshop delivery, they are really engaged and want to learn more. The link to register for the workshops went from the school and was coordinated by the school. If there was a community group in place, teachers might be overloaded so could work together with





Other County Councils across Ireland

"This programme stands at the top of the tree for kids' development, engagement with other families, fun, creativity, communication and team building. My involvement is two-fold: as broadband officer for Roscommon County Council aiming to promote and assist in getting OurKidsCode into as many BCPs and Digihubs throughout the county, and as a parent of a child in an OurKidsCode club."

John Shaughnessy, Broadband Officer, Roscommon County Council

"I love the concept of OurKidsCode in that it is a family-based activity, and I think it fits very well with our library ethos of family-based activity within the library space. From a library perspective, we would like to support digital literacy in terms of supporting the development of digital skills for all and promote the library space as a technology enriched space which is accessible to all."

Pauline Brennan, County Librarian, Leitrim

"Meath County Council have been working with OurKidsCode over the last two-and-a-half years developing digital skills across the community. The collaboration has delivered workshops across the county through libraries and community centres, reaching the diverse communities that live in Co. Meath and helping the most disadvantaged sections of our society get an introduction to coding. Several OurKidsCode clubs have been formed as well as lasting engagements with schools in rural areas of Co. Meath. The engagement increases interest and skills in coding and STEAM-related activities, helping to deliver on the Council's commitments in its Digital and ICT Strategy to improve the digital skills of its citizens. We look forward to deepening our partnership with OurKidsCode to offer STEAM education including to parents and schools across the community. Meath County Council aspires to continue the development of OurKidsCode clubs across the county to drive continued STEAM skills development across young and old in the county."

Cormac McCann, Broadband Officer, Meath County Council.

Part 4 Project Inpoct

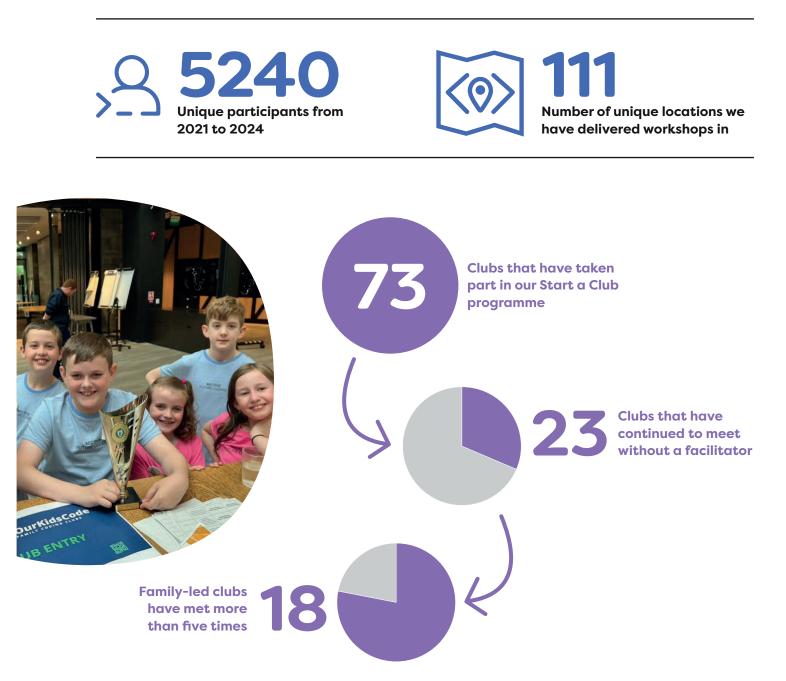
OurNidsCode



Participation Numbers

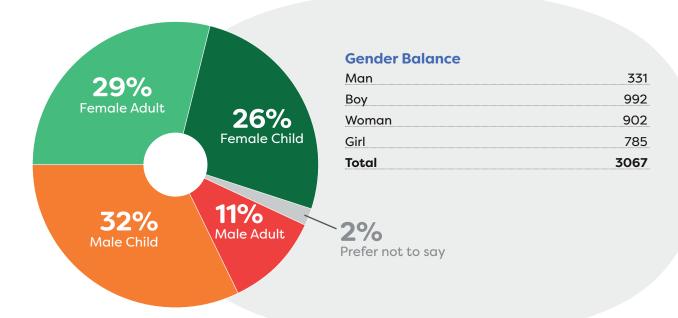
OurKidsCode has reached 5,240 unique participants from 2021 to 2024. We have delivered 688 facilitator-led workshops from a combination of one-off 'taster' workshops to our four-part Start a Club series of workshops.

To date we have delivered workshops in 111 locations. 73 locations (clubs) have taken part in our four-part Start a Club programme. Of these, 23 continued to meet without a facilitator and 18 of these family-led clubs have met more than five times.



Gender Breakdown

Data collected from Reaction Forms completed by participants during workshops indicates that gender balance and diversity in STEAM participation is being promoted through OurKidsCode: 29% of our participants are adult females and 11% are adult male, while 26% are female children and 32% are male children.



Unique Participants

17833128329Unique Participants
2021-22Unique Participants
2023-242024 Family
STEAM Fun Day
(141 adults and 188 kids)

Unique Club Codes Locations

Total: **111**

Total: 688

Total: 5240

73	38
Broadband Connection Point Centres	Libraries and other

Number of facilitated workshops

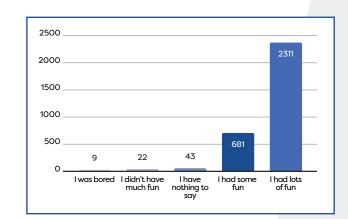
277	391
Facilitator-Led Workshops 2021-22	Facilitator-Led Workshops 2023-24 20
	Workshops at 2024 Family STEAM Fun Day

Reactions from Families

Families (parents, guardians and children) fill in a short reaction form as part of the workshop. There have been 3,066 responses to date. Here are some highlights.



Overall Enjoyment: 97% of participants reported having fun during the workshops.

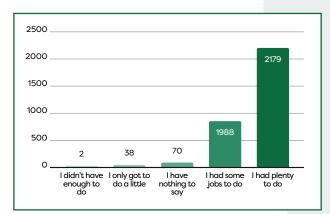


Joining In

Fun

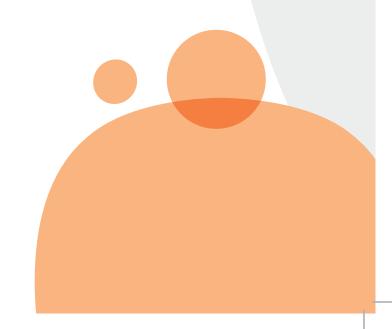


Participation Level: 96% of participants actively joined in the activities.



"We had a good chat about setting up our own club. Both myself and my son really enjoyed working and exploring activities together."

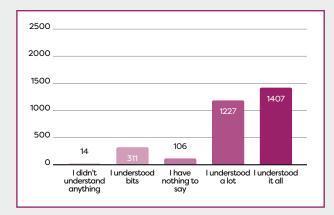
Parent



Understanding



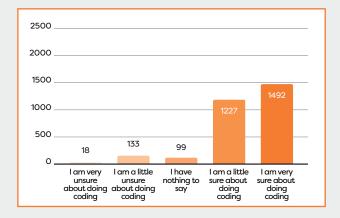
Understanding: 85% of participants felt they had some understanding of the coding concepts presented.





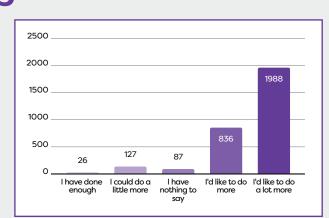
Confidence Building: 91% reported at least some confidence in their coding skills.

Confidence





Future Interest: 92% expressed desire to continue doing more workshop activities.



Doing More

PART 4: PROJECT IMPACT

Impact on families is monitored through surveys and focus groups, including 3,066 family-reaction surveys and almost 100,000 words of facilitator evaluation.

Our research to date indicates that participation in our workshops has strong potential to improve the quality and quantity of parental involvement in computing education. Qualitative data is our best method to tell the story of the impact we are having, through the words of parents and guardians describing their experiences, observations and insights.

"Great fun. Great working as a family team, bonding and learning."

Parent Co. Cork

"I would love to do more coding."

Child

"My kids have been working on their own codes at home ever since starting these sessions. They are hooked!"

Parent

MARV

"I was bowled over to think that something like that was available to us in the middle of nowhere in south Longford. That was great, it made it accessible, it made it local and the community spirit was brilliant."

Parent Co. Longford

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"We just kept loving it and wanted to do more."

Parent Co. Cork

"I love OurKidsCode. I love coding and I still feel like a kid playing with it. We'll never be amazing at it but we're proficient enough to facilitate the kids."

Parent, Co. Tipperary

"Fantastic exercise to get the whole family involved. It was great fun and very active."

Parent

"I love doing my coding and would love to do it some day in Trinity College."

Child

Club Continuation

All Time Club Continuation Data 2021-2024



% of group who met again at least once



25%

% of groups who met again at least 5 times



Family-led check ins

Note: Excludes library data (as we did not aim to set up clubs in libraries, programme was modified for 'camps').



Participants vs Participation Numbers

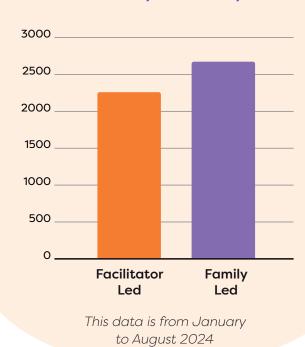
We wish to highlight that sustained engagement with creative coding is our north star. While every participant is valuable as a metric, those participants often come back for several weeks of workshops and a growing proportion have continued to meet regularly in their family-led clubs since 2022.

As we began to scale up our activity, we were encouraged by the high proportion of groups of families who continued to meet, after the facilitated workshops, as fledgling clubs. In October 2023 we introduced an online check-in form and asked clubs to check in to their meet-ups so that we might know about their activity. We used this information to include clubs in our plans for developing supports. We noticed over time that clubs were checking in sporadically, and that at least half of the activity was not being tracked with the check-in form.

Measuring unique numbers of participants is important, however we believe a true measure of the impact of OurKidsCode activity is better presented as 'participations'.

'Participations' are every time a group completes a workshop or a family-led meet-up. This means that one family of unique registrants would have four 'participations' if they complete the full programme. Furthermore, when families meet after the facilitated workshops – for family-led club meetups – each of those are counted as 'participations. Over January to August 2024, we did a deep dive tracking of club activity, which included monitoring social media and WhatsApp groups for clubs, regularly emailing the groups to ask how many times they had met and offer our support. Though this was not a sustainable practice for our small team, the data we gathered in this period reflects more accurately the level of sustaining activity.

In 2024 family-led, self-sustaining participations outpaced paid facilitator activity for the first time. We believe this is a significant milestone and will seek to find sustainable ways to accurately track club continuation and development.



2024 'Participations' Snapshot

Facilitators Trained





TOTAL





Behaviours and Attitudes

Follow-up survey on parental behaviours and attitudes - 6 months post participation

83%

Confidence Building Index: 83% of participants reported increased confidence with computing.

64%

Family Engagement Rate: 64% of families engaged in follow-up computing activities. Advocacy Rate: 79% of participants spoke to others about the programme.

25%

Academic/Career Influence: 25% discussed computing as a subject choice or career option with their child.

Note: Data to end of 2024

Resources We Have Developed

Workshop and Meet-Up Guides:

- Original materials for four-part Start A Club programme.
- Expanded through co-creation process with facilitators and families.

Facilitator Training and Support:

- Online CPD trainings.
- Ongoing facilitator support.
- Facilitator handbook and toolkit.

Run-a-Club Supports:

- Online resources (Slack channel, website pages).
- Guides for running meet-ups and forming clubs.
- Project guides.



Long-Term Impact

For long-term impact, we are contributing towards an ecosystem of initiatives and strategic partnerships that influence the diversity of STEAM graduates in Ireland.

We predict that OurKidsCode will stimulate interest and engagement in technology among parents and guardians, young children and primary schools leading to:

- Increased parental involvement in children's computing education.
- Increased uptake of computing subjects at second and third level.
- Increased female participation in computing through children's early exposure and mothers' interest in their children's education.
- Increased participation of marginalised groups in computing leading to a more diverse talent pipeline.
- The development of a highly educated and relevant workforce in demand by industry and academia through improving the technical skills of the current (parents and guardians) and future (primary-school children) workforce.



"Building digital skills in rural communities with access to high-speed broadband means that we, as a farming family, can now imagine a future where not all of our children will need to leave our community to be able to work in high-tech jobs in the future."

Parent, Co. Longford

Spotlight on Parents and Guardians

"OurKidsCode is fun, community, and the future. It's connecting parents to their kids in a fun application but also connecting families to other families and kids to other kids."

Parent, Co. Longford

Everything about OurKidsCode, the whole project, the principles, the ethos, it's just great. Especially in this day and age between child safety and parents being involved in their digital literacy, supporting your child in their STEAM learning, the social relationships. Everything about it is fantastic"

Parent, Co. Cork

"Our ideas for what we're going to do come from what we have available and what kids have identified. We've had robotics and stop motion animation and Lego Spike and Lego Essentials. We work through it together and everybody gets involved. The kids are so happy. If you go into the club you see they stand up and they're so proud to talk about it."

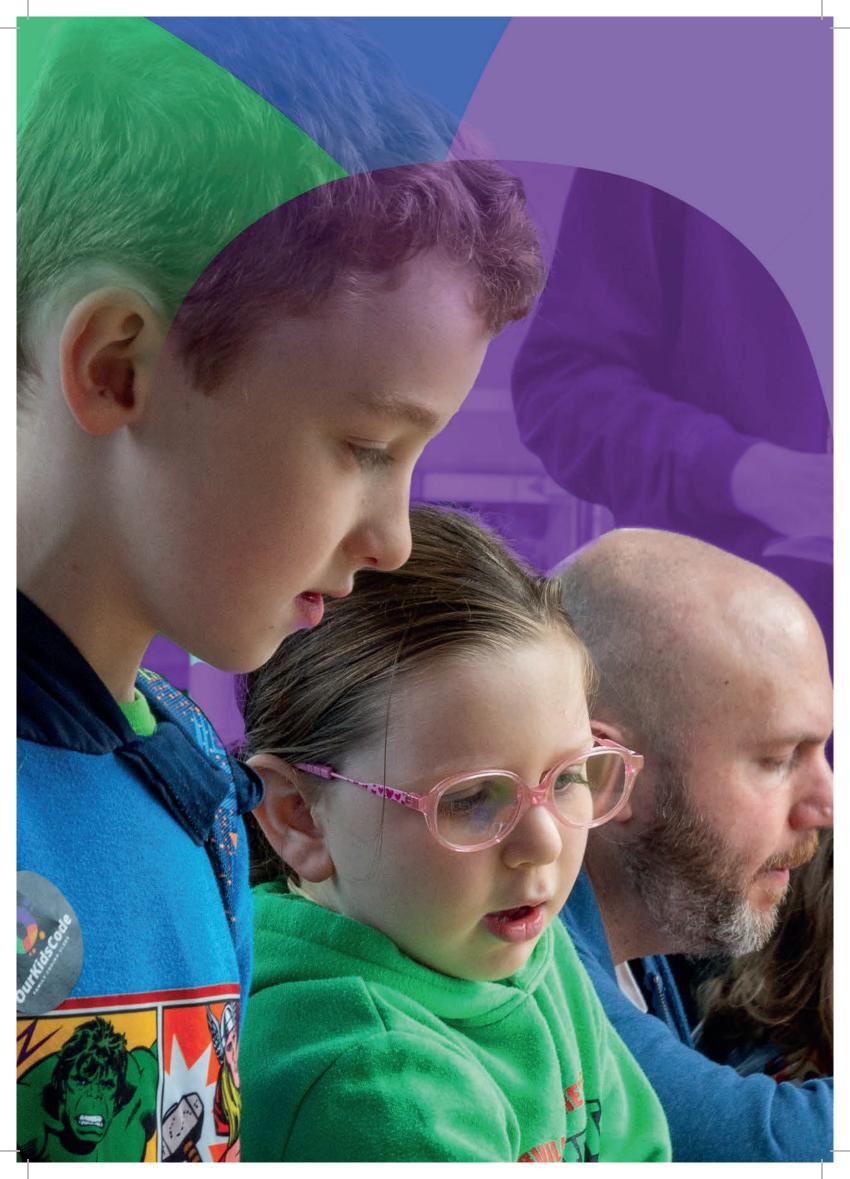
Parent, Co. Longford

"It began with the workshops with Siobhán and then the excitement built with the Dream Space initiative. All the families have different jobs; one family gets the keys, another looks after the electricity, things like that."

Parent, Co. Longford

"There was a mixture of arts and crafts and coding going on simultaneously. Everybody worked away and we even had foragers outside getting the leaves and twigs and everything. The younger ones worked away on that and then we'd come back together and decide on our next steps, what are you going to work on, what are we going to work on? And then we'd agree to meet up on a day that suited everybody."

Parent, Co. Longford



Fart 5 Funders, Partners and Supporters

Our Funders

Taighde Éireann Research Ireland OurKidsCode has been funded under Research Ireland Discover since 2018. Research Ireland Discover Programme creates meaningful public engagement with STEM, emphasising collaboration with communities, seeking to drive innovation in STEM education and public engagement and contributing to Ireland's industry, enterprise, and societal progress.



An Roinn Forbartha Tuaithe agus Pobail Department of Rural and Community Development

In 2021 OurKidsCode ran a small pilot with the Department of Rural and Community Development in conjunction with Tipperary and Longford County Councils to help promote the benefits of high-speed broadband through the network of broadband connection points (BCPs). BCPs are publicly accessible sites in rural and remote areas, including several offshore islands, that have been provided with a high-speed broadband connection ahead of the national fibre rollout under the National Broadband Plan. They are largely located at small rural community centres. From 2022 to 2024, with significant funding from the Department of Rural and Community Development, OurKidsCode have built relationships with 15 Local Authorities through their Broadband Officers working closely with communities to maximise use of broadband connection points by offering OurKidsCode workshops and supporting the family-led clubs.



An Roinn Oideachais Department of Education OurKidsCode was co-funded by the Department of Education under the 2022-2024 Research Ireland Discover Award.

with support from Google.org

In 2024, Google.org provided funding to address key barriers that were found to hinder young students in pursuing computer science education, as highlighted in the 2023 research report Breaking Barriers (<u>https://services.</u> <u>google.com/fh/files/misc/breaking_barriers_europe_</u> <u>report.pdf</u>).

This funding will support OurKidsCode family workshops in afterschool settings, to develop workshops and materials to address gender bias in STEM and to support and encourage career and subject choice conversations between parents and their children. We also plan to run a family fun Hackathon.

Our Partners

SUPPORTING PARENTS SUPPORTING CHILDREN

National Parents Council is proud to be involved in the OurKidsCode initiative, as it aligns seamlessly with our mission and vision of fostering family engagement in education. This initiative not only empowers parents to support their children's educational journey but also strengthens the bond between family members through shared learning experiences. OurKidsCode embodies our commitment to creating an inclusive and supportive learning environment where every child can thrive.

Dream Space[™]

Microsoft Ireland Dream Space offers free, research-based learning programmes that develop STEM skills while fostering creativity, empathy, collaboration and ethical decisionmaking.

Since 2022, Dream Space has collaborated with OurKidsCode to support young people, families and educators in rural communities through inclusive STEM learning experiences.

At the heart of this collaboration is The Dream Space Showcase, a national STEM learning journey that aims to celebrate the innovation and creativity found within rural clubs, schools and communities. Delivered in partnership with local councils, this initiative supports both classrooms and OurKidsCode clubs with a blended approach that allows families to engage in ways that suit them, with local schools and clubs often inspiring each other along the way.

The programme centres on a challenge where families in their clubs apply their newly developed STEM skills to tackle real-world problems that matter most to them. Their ideas and work are then showcased and celebrated at a national event hosted at Microsoft Ireland.

This collaboration continues to help close the digital divide between urban and rural areas, ensuring every young person, no matter where they live, has the opportunity to explore the world of STEM.

○micro:bit

Since 2024 OurKidsCode have partnered with the Micro:bit Educational Foundation, a non-profit global organisation, with the shared belief that an ability to understand, participate and work in the digital world is vitally important to a young person's life chances. The majority of the projects in our workshops are based on the BBC micro:bit which is designed to excite and appeal to a broad range of young people including those who might have thought tech was not for them. Our alignment with the Foundation also spans to inspiring more young people to learn digital skills and with our shared aim to diversify the students who choose STEM subjects as they progress through school and into their careers. This, in turn, grows a diverse pipeline of talent, boosting social equity and contributing to the creation of better technology.

Our Partners

County Councils across Ireland



OurKidsCode have established fiscal and operational partnerships with 15 county councils* across Ireland. Working closely with an increasing number of Broadband Officers since 2021, OurKidsCode began to expand our work with County Councils to include partnerships with county libraries in summer 2024.

*Cavan, Clare, Cork, Fingal, Galway, Kilkenny, Leitrim, Limerick, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Tipperary.



Comhairle Contae an Chabháin Cavan County Council





Comhairle Contae Chorcaí Cork County Council

Comhairle Contae Fhine Gall Fingal County Council







Kilkenny County Council Comhairle Chontae Chill Chainnigh



Comhairle Chontae Liatroma Leitrim County Council



Comhairle Cathrach & Contae Luimnigh Limerick City & County Council









Comhairle Contae Mhuineacháin Monaghan County Council





Comhairle Contae Ros Comáin Roscommon County Council



Our Supporters

CCESI Computers in Education Society of Ireland Cumann Ríomh-Oideachais na hÉireann CESI (Computers in Education Society of Ireland) - the professional network for teachers interested in using technology to enhance teaching and learning - supports the OurKidsCode model as a way of achieving a number of the deliverables of the Digital Strategy For Schools to 2027, namely to showcase how digital technologies can enhance communication between home and school, and raise awareness of and promote responsible and ethical use of the internet.



OurKidsCode supports the aim of Europe Code Week to bring coding and digital literacy to everybody in a fun and engaging way by delivering family creative-coding workshops designed to engage children and their families as computational co-creators. It aims to both increase parents' own competence and confidence with digital skills and tools and enable them to better support their children's learning.



Part 6 FUTUTOF FOCOS



For 2025-2026, the project involves the following strands



Model Development

The continued development of OurKidsCode models for impactful family STEAM engagement through co-creation with marginalised communities. Research is also planned for the development of a more robust support model to scaffold fledgling clubs. We are exploring a school/community 'STEAM Team' concept in close partnership with Meath County Council, to develop a new model of collaboration between primary schools and parents to support and sustain OurKidsCode in an after-school context.



Expanded Partnerships

Capacity building through the further development of an infrastructure for partnerships with county councils, libraries and schools, including evolving our Train-the-Trainer model. We are examining the potential for scaling up with strategic partners and funders to embed the OurKidsCode model with existing organisations, for example, Education and Training Boards, Libraries Ireland and Family Resource Centres. We are also developing pathways and guidelines for independent facilitators to offer OurKidsCode workshops. We are seeking to engage with EU partners for co-funding opportunities and exploring corporate funding and corporate social responsibility opportunities.



Support to Meet Growth

Securing longer term funding and structures for the development and support for the growing number of family-led OurKidsCode clubs.

Equality, Diversity and Inclusion (EDI)

For 2025-26, our proposed EDI research aims to explore barriers to participation, meaningful engagement through co-creation, and opportunities for integration. We will continue to work with partner organisations to bring OurKidsCode to displaced families, and socially, economically and educationally disadvantaged communities.



The continued development and dissemination of best practice in parental involvement in computing education through academic research.



To augment the OurKidsCode four-part Start A Club model, the development of a pre-model and post-model are required in order to scale sustainably by involving more county councils, schools and partners, and to ensure adequate post-support for clubs' sustained continuation and growth through continued co-creation practices and participatory methods of engagement with our network of partners.



Policy Solution

For the period up to 2028, our focus is on leveraging the OurKidsCode model as a valuable driver of multiple Government policy aims to ensure long-term sustainability. Among our recommendations for policymakers and educators is to include the OurKidsCode team in national fora and working groups, to secure the support of core funding for sustainable growth, and to facilitate cross-departmental collaboration to leverage the OurKidsCode's family STEAM learning model.

Conclusion

Thank You

OurKidsCode has demonstrated significant impact in promoting family-based STEAM learning, particularly in rural communities. The project's success in increasing parental involvement and fostering sustainable local coding clubs aligns with key national policies on education, digital literacy, and rural development[4,10].

To ensure the continued success and expansion of OurKidsCode, we call for:



Sustained core funding to support growth and impact.



Integration into national STEAM education initiatives.



Expanded partnerships with government departments, schools, community organisations, and tech industry leaders.

Footnotes

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