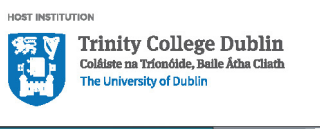


Engaging Content
Engaging People

A Data Literate Ireland

The Case for a Whole-of-
Government Approach to
Data Literacy Skills
Development in Ireland



PARTNER INSTITUTIONS



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Executive Summary

Data literacy is broadly defined as “the ability to read, work with, analyse, and argue with data.”¹ The Open Data Institute highlights that data literacy goes beyond the technical skills of working with data, emphasising the need to think critically about data and its presentation in different contexts.

In 2018, The Council of the European Union adopted a recommendation on eight key competences for lifelong learning. The recommendation states that these are essential to citizens for personal fulfilment, a healthy and sustainable lifestyle, employability, active citizenship and social inclusion. Digital competence is one of these key competences. The European’s Commission’s Digital Competence Framework for Citizens (DigComp 2.0) states that “Digital skills for work and for life are at the top of the European Policy Agenda”. The framework highlights that due to emerging technologies, such as Artificial Intelligence, Virtual and Augmented Reality, robotisation, the Internet of Things, datafication, or phenomena such as misinformation and disinformation, there are now new and increased digital literacy requirements on the part of the citizen. ‘Information and Data Literacy’ has been identified as the first of five competence areas to increase digital competence.

It is ADAPT’s position that there must be a blended, joined-up approach to improving digital literacy across Irish society. This issue is not the responsibility of one government department or agency; instead a whole-of-government approach, one that is cross-institute and cross-discipline - must be taken to solve this complex problem. These conclusions are in line with those reached by the Department of Enterprise, Trade and Employment (DETE), the National Skills Council (NSC), the National Adult Literacy Agency (NALA), and the Government of Ireland’s Adult Literacy for Life (ALL) report that AI and digital literacy skills are embedded.

¹D’Ignazio, C., & Bhargava, R. (2015, September). Approaches to building big data literacy. In Proceedings of the Bloomberg data for good exchange conference (p. 6)

²Open Data Institute. “Data Literacy and the UK Government” (2022) http://theodi.org/wp-content/uploads/2022/04/OPEN_REPORT_Data-literacy-and-the-UK-government_ODI_2022-04-3.pdf

³Directorate-General for Education, Youth, Sport and Culture, (2019). Key Competences for Lifelong Learning, & European Commission. <https://data.europa.eu/doi/10.2766/569540>

Just as DETE, NSC, NALA and ALL conclude that AI and digital literacy skills are embedded alongside the need for lifelong learning and adult literacy skills in Ireland, we need to ensure that data literacy is included in this broad understanding of “digital literacy” and take a whole-of-government approach to data literacy skills development in Ireland.

In this document ADAPT provides a definition of data literacy, assesses the current landscape around education and training in data literacy available for the Irish public, summarises findings from a pilot scheme ADAPT has created to increase data literacy skills in hard-to-reach communities, and proposes how to upscale these findings into a recommendations for a whole-of-government approach to data literacy skills development in Ireland.

Data Literacy: A Key 21st Century Skill

According to the European Commission, data literacy – the ability to locate, judge the relevance of, and organise data – is linked to a range of key competences for modern life including engaged citizenship, “netiquette”, and operating safely and securely online⁴. The National Adult Literacy Agency (NALA) states that “literacy is a barometer of equality⁵”. While NALA does not mention data literacy specifically, it notes that “literacy enables us to be critically reflective and engaged citizens, which is essential in today’s news, media and digital world.”⁶ It is clear that data literacy is now an essential life skill for citizens, workers, and people of all ages and demographics.

Data Literacy Further Education and Training: The Current Landscape

In July 2021, the Irish Government, in collaboration with SOLAS (the Irish state agency for Further Education and Training), published ‘Adult Literacy for Life (ALL), A 10-Year Adult Literacy, Numeracy and Digital Literacy Strategy’⁷. This strategy represents a reorientation of adult literacy education and training provision

⁴Vuorikari, R., Punie, Y., Gomez, S. C., & Van Den Brande, G. (2016). DigComp 2.0: The digital competence framework for citizens. Update phase 1: The conceptual reference model (No. JRC101254). Joint Research Centre (Seville site) <https://publications.jrc.ec.europa.eu/repository/handle/JRC106281>

⁵National Adult Learning Agency (NALA) (2020). Literacy Now! , <https://www.nala.ie/wp-content/uploads/2020/07/Literacy-Now-NALA-2020.pdf>: 13

⁶Ibid.,18

⁷Government of Ireland, (2021). Adult Literacy for Life (ALL): A 10-Year Adult Literacy, Numeracy and Digital Literacy Strategy <https://assets.gov.ie/197863/c6f1e81f-3f60-485d-9c55-e33cb85508bc.pdf>

⁸National Adult Learning Agency (NALA) (2020). Literacy Now! , <https://www.nala.ie/wp-content/uploads/2020/07/Literacy-Now-NALA-2020.pdf>: 4

⁹Government of Ireland, (2021). Adult Literacy for Life (ALL): A 10-Year Adult Literacy, Numeracy and Digital Literacy Strategy <https://assets.gov.ie/197863/9c6f1e81f-3f60-485d-9c55-e33cb85508bc.pdf>: 18-9

¹⁰European Commission, (2022). DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes https://joint-research-centre.ec.europa.eu/digcomp/digital-competence-framework_en

¹¹Paris 21, (2021) Advancing Data Literacy in the Post-Pandemic World

from a piecemeal pursuit to a joined-up “whole-of-government approach for investing in adult literacy, numeracy and digital skills for an equal and resilient Ireland.”⁸ ALL lists digital, family, environmental, financial, health, media and numeric literacy as key competences. However, there is no specific mention of data literacy.⁹

By contrast, the European Commission’s Digital Competence Framework, DigComp¹⁰, which provides a basis for framing digital skills policy, lists Information and Data Literacy as one of five competence areas required for 21st Century citizens.

ADAPT believes that it would represent a substantial missed opportunity for Ireland if data literacy were not included in the rollout of the systems-based approach to further education and training provision in adult literacy, numeracy and digital literacy espoused by Adult Literacy for Life (ALL).

Debunked: Learnings from Informal Data Literacy Workshops

This paper purports that greater levels of data literacy are required in Ireland. While industry, schools and higher education institutions are being equipped to deliver this in their respective spheres, there remain many citizens outside this remit. ADAPT, the Science Foundation Ireland Research Centre for AI-Driven Digital Content Technology, worked with one such group in a series of data literacy workshops in 2021, delivering “Debunked”: a pilot-scale series aimed at local residents in Dublin’s Grand Canal Dock District.

Debunked identified four approaches to overcome the challenges of delivering effective data literacy training, which also broadly aligned with research laid out by the Partnership in Statistics for Development in the 21st Century (Paris21) on how to successfully advance data literacy after the pandemic.¹¹

¹¹Paris 21, (2021) Advancing Data Literacy in the Post-Pandemic World

We believe these four approaches, as successfully used in the Debunked pilot project, can be scaled effectively to increase data literacy skills in the Irish public:



Informal lifelong learning:

NALA posits that “adults learn best when the decision to return to learning is their own and the environment is supportive, relaxed and friendly”¹².

Debunked’s informal, semi-structured environment, where examples used were relatable and drawn from the group’s experiences and lived realities, allowed space for vulnerability.



Community-based approach:

ALL found that there are significant “socio-cultural and economic barriers” to literacy in Ireland.¹³ This suggests the need for trusted inroads into those socio-economic demographics which might be marginalised.

Debunked highlighted the need for projects that are locally grounded informal learning opportunities which are delivered in collaboration with existing community networks.



Co-creational approach:

Paris21 recommends a “targeted, demand-driven approach that accounts for the incentives of citizens to engage in the broader data culture”. This demand-driven approach to data literacy allows relevant data literacy training to “factor in the local realities and needs of citizens by design” and “generate an enabling environment that can outlast a particular data literacy initiative itself.”¹⁴

Debunked’s co-creation process from the initial concept allowed for this.



Reframing Data Literacy Training:

Paris21 outlines the need for short-, medium-, and long-term data literacy strategies. The development of “bite-sized” short- and medium-term courses or programmes will be crucial in helping develop data literacy skills in those who are not formally employed as literacy practitioners, but who deal with people in need of support.

Debunked showed potential to foster trust, establish lifelong learning practices and work on a community level on a pilot scale by partnering with community and civil society groups to deliver learning experiences.

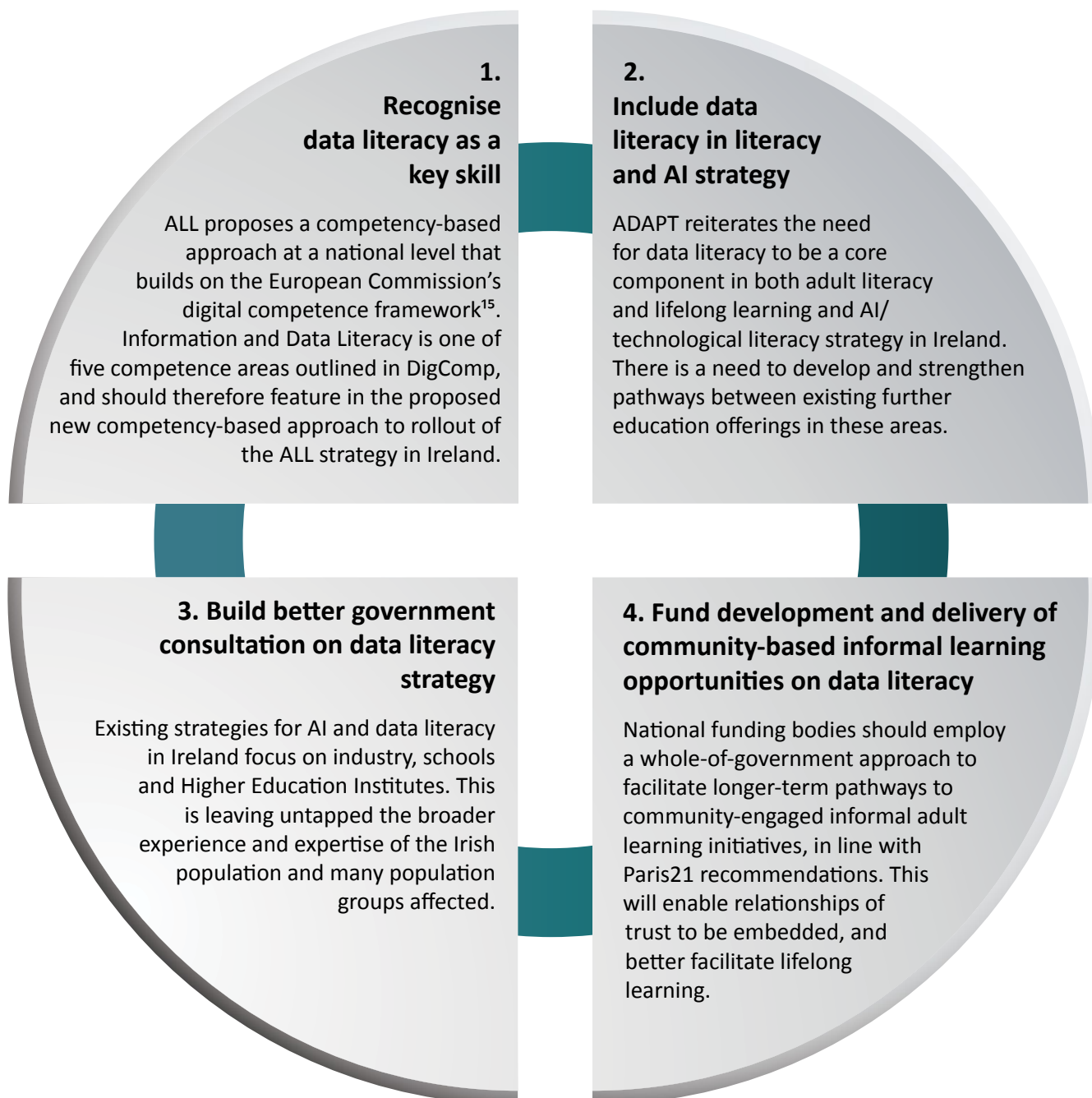
¹² National Adult Learning Agency (NALA) (2020). Literacy Now! , <https://www.nala.ie/wp-content/uploads/2020/07/Literacy-Now-NALA-2020.pdf>: 52.

¹³ Government of Ireland, (2021). Adult Literacy for Life (ALL): A 10-Year Adult Literacy, Numeracy and Digital Literacy Strategy <https://assets.gov.ie/197863/c6f1e81f-3f60-485d-9c55-e33cb85508bc.pdf>: 28-9.

¹⁴Paris 21, (2021) Advancing Data Literacy in the Post-Pandemic World https://paris21.org/sites/default/files/inline-files/DataLiteracy_Primer_0.pdf

Recommendations for Irish Data Literacy Strategy

On the basis of these findings, ADAPT makes the following recommendations for Irish data literacy strategy:



ADAPT asserts that by implementing these four recommendations, a cross-government approach to increasing data literacy skills amongst the Irish population can be achieved.

¹⁵European Commission, (2022). DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes
https://joint-research-centre.ec.europa.eu/digcomp/digital-competence-framework_en

Contents

Introduction	9
Data literacy: A key life skill in the digital age	9
Current state of play in Ireland	10
Challenges	11
ADAPT & Debunked	12
About Debunked	12
Findings from Debunked	12
1. Informal, lifelong learning	12
2. Community-based approach	13
3. Co-creational approach	13
4. Reframing Data Literacy Training	14
Recommendations	15
1. Recognise data literacy as a key skill	15
2. Include data literacy in literacy and AI strategy	15
3. Build better government consultation on data literacy strategy	15
4. Fund development and delivery of community-based informal learning opportunities on data literacy	15
Conclusions	16

Introduction

DATA LITERACY: A KEY LIFE SKILL IN THE DIGITAL AGE

Our world is increasingly structured and mediated by data and its (mis)representation. From making informed consumer choices and health decisions, to assessing the nutritional content of a meal or understanding interest rates, to participating in civil society and democracy, it is critical that we can engage with, make use of, and ultimately understand data.

The European Commission's DigComp framework defines data as "a sequence of one or more symbols given meaning by specific act(s) of interpretation" which can be "analysed or used in an effort to gain knowledge or make decisions."

Data literacy is broadly defined as "the ability to read, work with, analyse, and argue with data."¹⁶ The Open Data Institute (ODI) highlights that data literacy goes beyond the technical skills of working with data, emphasising the need to think critically about data and its presentation in different contexts.¹⁷ The European Commission links the ability to locate, judge the relevance of, and organise data with a range of key competences for modern life including engaged citizenship, "netiquette", and operating safely and securely online.¹⁸

As well as technical data skills, the ODI Skills Framework (2020)¹⁹ highlights the importance of transversal or critical skills in establishing data literacy for all. The report suggests that "literacy" is necessary so that the public understand policy making decisions and can critique them when they use data disingenuously.

The importance of digital literacy is not to be understated, particularly in the context of the shift online enacted during the COVID-19 pandemic. But while 8% of the Irish population have never used the internet,²⁰ data is virtually impossible to avoid in everyday life. Kirk Borne²¹ puts it thus: "Data permeates our daily lives through all conceivable digital technologies, handheld devices, business activities and personal activities. Through data, the world is computable. [...] the focus should be on demonstrating that data science and analytics are universally appealing, data literacy is accessible and data fluency is achievable for all."²² ADAPT's core message is that data literacy is a key life skill for citizens, workers, and people of all ages and demographics.

¹⁶ D'Ignazio, C. and Bhargava, R., (2015). Approaches to Building Big Data Literacy, Bloomberg Data for Good Exchange Conference (NYC)

¹⁷ Open Data Institute. (2022) "Data Literacy and the UK Government" http://theodi.org/wp-content/uploads/2022/04/OPEN_REPORT_Data-literacy-and-the-UK-government_ODI_2022-04-3.pdf

¹⁸ European Commission, (2022). DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes https://joint-research-centre.ec.europa.eu/digcomp/digital-competence-framework_en

¹⁹ The ODI, (2020, May 4). Data Skills Framework.. The ODI. <https://theodi.org/article/data-skills-framework/>

²⁰ Government of Ireland, (2021). Adult Literacy for Life (ALL): A 10-Year Adult Literacy, Numeracy and Digital Literacy Strategy <https://assets.gov.ie/197863/c6f1e81f-3f60-485d-9c55-e33cb85508bc.pdf>: 22.

²¹ Professor of astrophysics at George Mason University, Data Archive Project scientist for the Hubble Space Telescope, and contract manager in NASA's Astronomy Data Center and Space Science Data Operations Office.

²² Alfod, J. (2021) A data scientist's view on data literacy: Kirk Borne on the value of universal understanding of data and its effect on society. SAS Ireland. https://www.sas.com/en_ie/insights/articles/analytics/data-scientist-data-literacy.html

CURRENT STATE OF PLAY IN IRELAND

There have been several recent reports by Irish government and non-government bodies on data, digital and AI literacy:

- The Department of Enterprise, Trade and Employment (DETE) “AI – Here for Good: National Artificial Intelligence Strategy for Ireland” (2021)
- The National Skills Council Expert Group on Future Needs Skills (NSC) “AI Skills: A Preliminary Assessment of the Skills Needed for the Deployment, Management and Regulation of Artificial Intelligence” (2022)
- There are also two further reports on adult learning and literacy:
- National Adult Learning Agency (NALA), Literacy Now! (2020)
- The Government of Ireland, Adult Literacy for Life (ALL) (2021)

The work by the DETE and NSC comprises a clear-eyed look at the possibilities and challenges facing the Irish economy and people in an age of rapid technological advancement. However, both focus on AI’s potential ramifications for the economy: “AI – Here for Good” outlines that successful integration of AI could double economic growth by 2035 and achieve higher productivity in the public sector²³, and the NSC warns that Ireland currently lags behind the EU average of industry uptake of AI technology: 52% of Irish firms are not using AI and do not plan to, as against the EU average of 40%.²⁴

The typology put forward in these reports is that the main benefits of AI are economic and the main challenges are competency based.

Bearing this in mind, “AI – Here for Good” outlines the need to build public trust and demystify AI by appointing an AI Ambassador (Patricia Scanlon, appointed in May 2022) and holding a Youth Assembly on AI. However, this does not specifically address either data literacy or lifelong learning.

NALA (2020) states that “literacy is a barometer of equality”²⁵, and suggests the need for “a whole-of-government approach for investing in adult literacy, numeracy and digital skills for an equal and resilient Ireland.”²⁶ NALA’s criteria for the importance of literacy include education, citizenship, work, money and budgeting, consumer rights, as well as more social and personal measures such as personal fulfilment, health and wellbeing, family and community engagement.²⁷ While NALA does not mention data literacy, they note that “[l]iteracy also influences our trust in others, our willingness to volunteer and our belief about the contribution we can make to the political process. Literacy enables us to be critically reflective and engaged citizens, which is essential in today’s news, media and digital world.”²⁸ As evinced by the pandemic and mentioned above, data literacy is essential in this regard.

Following NALA’s report, the Irish government charged SOLAS (the state agency for Further Education and Training) with putting together a ten-year literacy strategy, currently in Year 1 of rollout. NALA has welcomed this strategy, which represents a reorientation of adult literacy from a piecemeal pursuit to a joined-up, whole-government strategy. Among its proposals are a one-stop-shop and authoritative list of resources for those struggling with digital literacy.²⁹

²³The Department of Enterprise, Trade and Employment. (2021) AI – Here for Good: National Artificial Intelligence Strategy for Ireland, <https://enterprise.gov.ie/en/publications/publication-files/national-ai-strategy.pdf>, 28.

²⁴The National Skills Council Expert Group on Future Needs Skills (NSC). (2022) AI Skills: A Preliminary Assessment of the Skills Needed for the Deployment, Management and Regulation of Artificial Intelligence. <https://www.regionalskills.ie/regions/midwest/news/egfsn-ai-skills-report.pdf> 19.

²⁵National Adult Learning Agency (NALA) (2020). Literacy Now! , <https://www.nala.ie/wp-content/uploads/2020/07/Literacy-Now-NALA-2020.pdf>, 13.

²⁶Ibid., 4.

²⁷Ibid., 9.

²⁸Ibid., 18.

²⁹Government of Ireland, (2021). Adult Literacy for Life (ALL): A 10-Year Adult Literacy, Numeracy and Digital Literacy Strategy <https://assets.gov.ie/197863/c6f1e81f-3f60-485d-9c55-e33cb85508bc.pdf>, 11.

The DETE and NSC reports centralised secondary and higher education and continuous professional development as sites of technological literacy. The ALL strategy acknowledges that “literacy is not fixed” and that “[l]ike any capability or skill, it must be used regularly to be maintained and advanced.”³⁰ This is a welcome indication of the role for lifelong learning and adult education. ALL lists digital, family, environmental, financial, health, media and numeric literacy as key competences. However, there is no mention of data literacy.³¹

To summarise: there is the overall sense that where data literacy is mentioned (in DETE and NSC reports), it is mostly in the context of AI as a driver of future economic growth. While the approach to AI is said to be human-first, this is not substantiated in the reports. By contrast, NALA and ALL make better acknowledgment of and provision for the human side of literacy, but do not mention data. ADAPT makes the case for uniting these two strands into one coherent³² approach to data literacy in Ireland.

Challenges to Data Literacy Skills Acquisition:

Amárach’s Ipsos Omnibus Smart Poll Survey conducted during the research phase for ALL identified that social embarrassment/stigma around a perceived lack of literacy deters people from accessing the supports they need. This might be elevated by negative experiences of formal education such as school. NALA

outlines that this shame is often experienced by those already marginalised in society, with low literacy feeding into shame felt around issues of economic deprivation: “Poverty and low literacy [...] have similar impacts on people: powerlessness; inequality and injustice; feelings of rejection and inadequacy; a sense of hopelessness and failure; social stigma; marginalisation, low health and low self-esteem”³³. Correspondingly, the evaluation report from ADAPT’s Debunked informal data literacy workshop series identified shame and social stigma as the main challenge to establishing a broad base of data literacy among the population. The evaluation also found that “[d]ata literacy is personal [to participants] and engaging with it leads to emotional responses”, and that people with low data literacy are more likely to fall prey to misinformation at times of crisis and heightened emotion.

Other issues include a lack of integration of resources for data literacy specifically. ALL is seeking to address this lack of resource integration for provision of other forms of literacy and numeracy skills development, by espousing a systems-based approach as the basis for the 10-year general literacy strategy, including dedicated funding for collaboration with national, regional and local literacy coordinators.³⁴ It would represent a substantial missed opportunity for Ireland if data literacy were not included in the rollout of this systems-based approach to adult literacy.

“ *Previous and current interventions to foster data literacy remain inadequate to confront the challenges of today’s datafied information ecosystems.* ”
-Paris21

³⁰ Ibid., 18.

³¹ Ibid., 18-9.

³² Paris21. Advancing data literacy in the post-pandemic world: A primer to catalyse policy dialogue and action . https://paris21.org/sites/default/files/inline-files/DataLiteracy_Primer_0.pdf

³³ National Adult Learning Agency (NALA) (2020). Literacy Now! , <https://www.nala.ie/wp-content/uploads/2020/07/Literacy-Now-NALA-2020.pdf>: 14.

³⁴ Government of Ireland, (2021). Adult Literacy for Life (ALL): A 10-Year Adult Literacy, Numeracy and Digital Literacy Strategy <https://assets.gov.ie/197863/c6f1e81f-3f60-485d-9c55-e33cb85508bc.pdf>: 10.

ADAPT & Debunked

ADAPT is the Science Foundation Ireland Research Centre for AI-driven Digital Content Technology, coordinated by Trinity College Dublin and co-hosted by Dublin City University. As a pioneer of human-centric AI techniques, ADAPT seeks to empower individuals and society to engage in our digital world and bring about a socially inclusive digital sphere by 2030.

It is clear that greater levels of data literacy are required in Ireland. While industry, schools and higher education institutions (HEIs) are being equipped to deliver this in their respective spheres, there remain many citizens outside this remit. ADAPT worked with one such group in a series of data literacy workshops in 2021, delivering “Debunked”: a pilot-scale series aimed at local residents in the Grand Canal Innovation District (GCID). Due to the pandemic, the series (planned as in-person events) was moved online.

“ It was definitely one of the most interactive workshops that I’ve been in, you could really tell that a lot of thought was put into generating that interactivity...it was an inventive use of graphs, and encouraging or sparking conversation as well...I thought it was really really well done. ”

- Debunked workshop participant

ABOUT DEBUNKED

The Debunked workshops provided informal educational experiences for members of the public that incorporated examples, discussion, dialogue and deliberation around data literacy skills, and offered tools to embolden people to navigate mis-, dis- or malinformation online through improved data literacy. The Debunked team co-created the workshop content and format with target participants in order to ensure that the topic, proposed stories, activities and tools resonated with them and would be of value to the audiences they represent. The final workshop format was structured to allow moments of personal reflection, as well as small and large group conversation and debate.

FINDINGS FROM DEBUNKED

Findings from Debunked³⁵ are consistent with the range of research on how best to enact both effective data literacy training and lifelong learning.³⁶ Debunked also identified several ways to overcome these challenges, which also broadly aligned with research laid out in the Paris21’s 2021 report on how to successfully advance data literacy after the pandemic.³⁷

1. Informal, lifelong learning

Due to the stigma attached to low literacy, NALA suggests a reframing of literacy as lifelong learning rather than training. NALA posits that “[a]dults learn best when the decision to return to learning is their own and the environment is supportive, relaxed and friendly”,³⁸ and that “[l]iteracy should be seen through the lens of the personal, emotional, social and psychological well-being that it provides.”³⁹ Debunked prioritised informal learning in its workshops. Its subject material comprised “narrative and storytelling that covered Irish history and memes, as well as print and online media, graphs and statistics”, and the workshops

³⁵Hurley, M. (2022) Debunked: Data Literacy For Adults. Evaluation Report, Science & Society Research Group, Trinity College Dublin <https://www.adaptcentre.ie/projects/debunked/>

³⁶D’Ignazio, C. and Bhargava, R., (2015). Approaches to Building Big Data Literacy, Bloomberg Data for Good Exchange Conference (NYC)

³⁷Paris21. (2021) Advancing data literacy in the post-pandemic world: A primer to catalyse policy dialogue and action . https://paris21.org/sites/default/files/inline-files/DataLiteracy_Primer_0.pdf

³⁸ National Adult Learning Agency (NALA) (2020). Literacy Now! , <https://www.nala.ie/wp-content/uploads/2020/07/Literacy-Now-NALA-2020.pdf>: 52.

³⁹Government of Ireland, (2021). Adult Literacy for Life (ALL): A 10-Year Adult Literacy, Numeracy and Digital Literacy Strategy <https://assets.gov.ie/197863/c6f1e81f-3f60-485d-9c55-e33cb85508bc.pdf>: 19.

operated via semi-structured presentations, discussions and reflections. This informal, semi-structured environment where examples used were relatable and drawn from the group's experiences and lived realities allowed space for vulnerability. Participants reported feeling free to mention previously feeling "silly, stupid, ashamed, regretful, irresponsible or foolish" for falling prey to mis-, dis- or malinformation. Moreover, the inclusion of several older people was notable in comparison to their absence – and the absence of lifelong learning – in the DETE and NSC literature.

2. Community-based approach

The sort of informal learning recommended by NALA can be delivered in collaboration with "Ireland's large community and voluntary sector" which NALA calls "an important potential pathway to literacy improvement".⁴⁰ Moreover, ALL found that there are significant "socio-cultural and economic barriers" to literacy in Ireland.⁴¹ This suggests the need for trusted inroads into those socio-economic demographics which might be marginalised, and highlights the need for locally grounded Education & Public Engagement (EPE) expertise working in collaboration with existing community networks.

3. Co-creational approach

A stand-out feature of Ireland's approach to data, digital and AI literacy thus far has been a lack of public consultation. Reviewing 40 public documents written since 2011 in Ireland, the UK and by the European Commission, Kerr, Barry and Kelleher⁴² found that Ireland relies on reports on data and AI commissioned from private consultancy firms (e.g. Deloitte 2021, Accenture 2022, PwC and the Analytics Institute 2019). Contrastingly, the UK and European Commission also consult public opinion. The authors note: "In Ireland there has been no national attempt to engage with the social and ethical implications of deploying AI systems across the public and private sectors".⁴³

⁴⁰National Adult Learning Agency (NALA) (2020). Literacy Now! , <https://www.nala.ie/wp-content/uploads/2020/07/Literacy-Now-NALA-2020.pdf>:38.

⁴¹Government of Ireland, (2021). Adult Literacy for Life (ALL): A 10-Year Adult Literacy, Numeracy and Digital Literacy Strategy <https://assets.gov.ie/197863/c6f1e81f-3f60-485d-9c55-e33cb85508bc.pdf>: 28-9.

⁴²Kerr, A., Barry, M., and Kelleher, J. D. (2020) We Expect Ethical Artificial Intelligence – Who Will Deliver It?, Media Literacy Ireland <https://www.medialiteracyireland.ie/news/we-expect-ethical-artificial-intelligence-who-will-deliver-it>



The expert consensus is clear that this is an ill-advised approach to strategy formation.

The Partnership in Statistics for Development in the 21st Century (Paris21) warns against supply-driven data literacy outreach. Instead, they recommend a “targeted, demand-driven approach that accounts for the incentives of citizens to engage in the broader data culture”. This demand-driven approach to data literacy allows relevant training to “factor in the local realities and needs of citizens by design” and “generate an enabling environment that can outlast a particular data literacy initiative itself.”⁴⁴ Similarly, Mary Maher, head of the Dublin Adult Learning Centre (DALC), notes that “people have rich, vast experiences that are so important to bring to learning”.⁴⁵ Maher cites word of mouth as DALC’s strongest tool for recruiting new learners, and advocates for learner-led curricula.

ALL represents a welcome step towards participatory strategizing, using an omnibus survey of 1,118 people and written submissions from 139 organisations and 395 individuals as a basis for recommendations.⁴⁶ Debunked espoused this attitude to learning, marrying demand-driven and co-creational approaches. The consultation phases in the Debunked workshops’ development allowed participants to refine subject matter so that it was relevant, useful and accessible to them. The Evaluation

showed that this approach to data literacy tapped into a demand that was already there in the community, with “the majority of respondents agree[ing] that the public and the people who will be affected by scientific research should have a say in how it develops”. This co-creational element allowed for a reframing of the question of data literacy so it does not frontload the idea of failure and being “left behind” by society and economy.

4. Reframing Data Literacy Training

Paris21 outlines the need for short-, medium-, and long-term data literacy strategies. The development of “bite-sized” short- and medium-term courses will be crucial in helping develop data literacy skills in those who are not formally employed as literacy practitioners, but who deal with people in need of support. Debunked showed potential in this area through liaising with community and civil society groups to deliver the workshops.

However, Paris21 highlights a general lack of investment in long-term data literacy training. This shortfall means that relationships of trust are harder to establish, that a lifelong learning approach is difficult, and that opportunities “to develop data literacy beyond the individual level are limited.” Debunked showed potential to foster trust, establish lifelong learning practices and work on a community level on a pilot scale.



⁴³Ibid

⁴⁴Paris21. (2021) Advancing data literacy in the post-pandemic world: A primer to catalyse policy dialogue and action . https://paris21.org/sites/default/files/inline-files/DataLiteracy_Primer_0.pdf

⁴⁵AONTAS. (8 July 2022) Community learning that people need, at their own pace: Visiting the Dublin Adult Learning Centre (DALC). AONTAS <https://www.aontas.com/knowledge/blog/community-learning-that-people-need,-at-their-own-pace-visiting-the-dublin-adult-learning-centre>

⁴⁶Government of Ireland, (2021). Adult Literacy for Life (ALL): A 10-Year Adult Literacy, Numeracy and Digital Literacy Strategy <https://assets.gov.ie/197863/c6f1e81f-3f60-485d-9c55-e33cb85508bc.pdf>: 18.

Recommendations

On the basis of these findings, ADAPT makes the following recommendations for Irish data literacy strategy going forward.

1. Recognise data literacy as a key skill

ALL proposes a competency-based approach at a national level that builds on the European Commission's digital competence framework.⁴⁷ Information and Data Literacy is one of five competence areas outlined in DigComp, and should therefore feature in the proposed new competency-based approach to rollout of this strategy in Ireland.

2. Include data literacy in literacy and AI strategy

Drawing on NALA's call for, and ALL's embedding of, joined-up approaches to literacy, ADAPT reiterates the need for data literacy to be a core component in both adult literacy and lifelong learning and AI/technological literacy strategy in Ireland.

There is a need to facilitate pathways between existing offerings. ADAPT has the capability to deliver further Debunked-style data literacy workshops as part of the government's adult literacy programme.

3. Build better government consultation on data literacy strategy

While literacy strategy on reading, numeracy and digital skills has taken its lead from experts such as NALA and the population groups affected, strategies for AI and data literacy focus on industry, schools and HEIs. This is leaving the EPE sector's significant experience and expertise.

4. Fund development and delivery of community-based informal learning opportunities on data literacy

There is a need to ensure that data literacy features within the Right Course portal proposed in ALL. This portal will be a single resource serving as the first port of call for those seeking information and advice on literacy, including help in identifying literacy needs, and linking to further resources that will allow them to take the next step in accessing services and support. From a funding perspective, bodies such as Science Foundation Ireland and other national funders should facilitate longer-term pathways to adult and ongoing informal learning in line with Paris21 recommendations. This will allow time for relationships of trust to be embedded, and better enable lifelong learning.

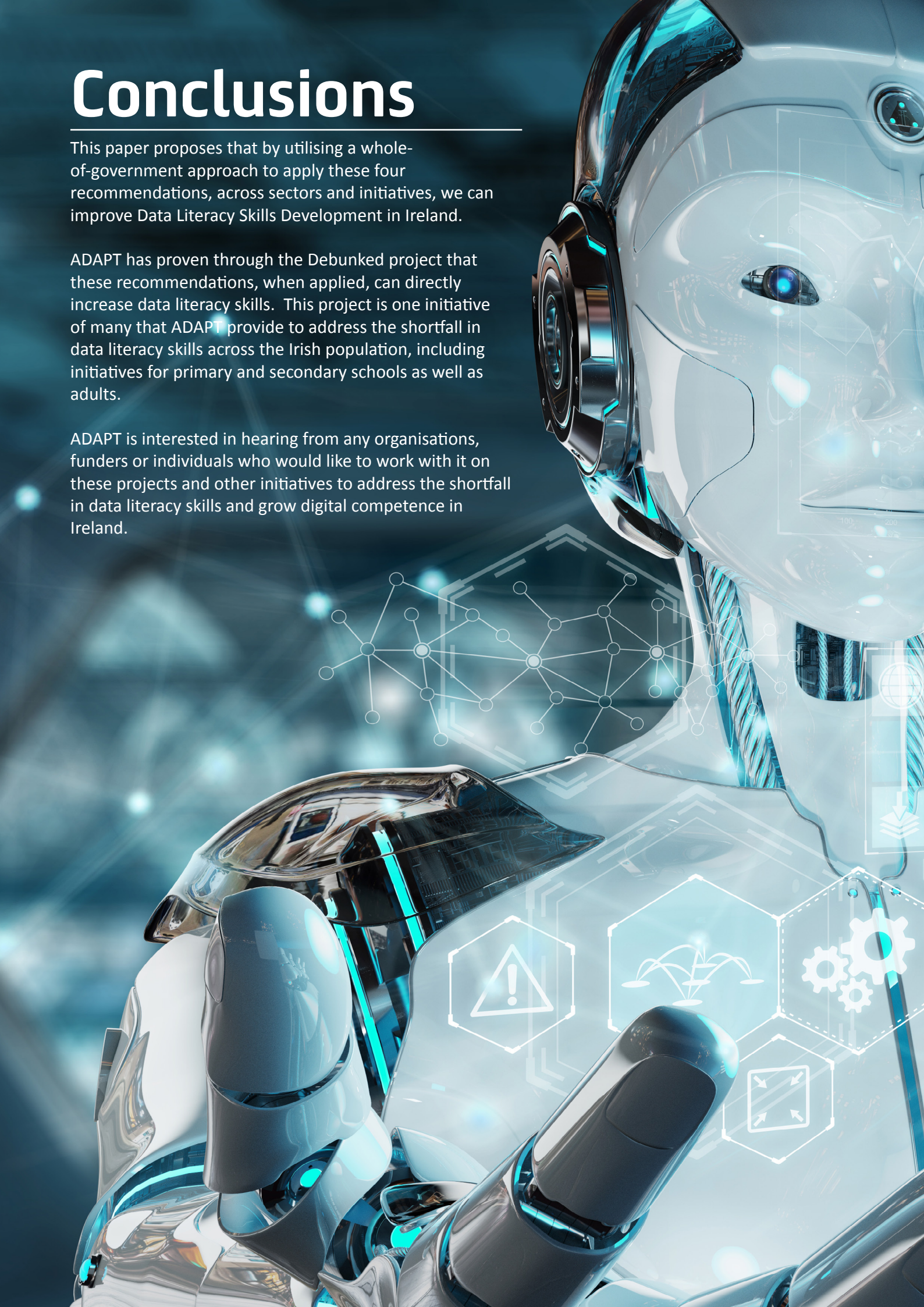
⁴⁷European Commission, (2022). DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes https://joint-research-centre.ec.europa.eu/digcomp/digital-competence-framework_en

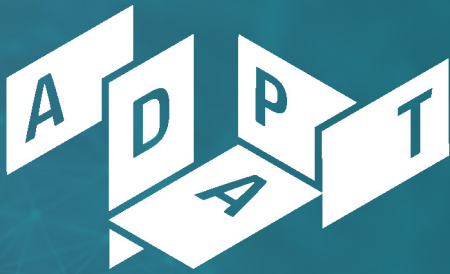
Conclusions

This paper proposes that by utilising a whole-of-government approach to apply these four recommendations, across sectors and initiatives, we can improve Data Literacy Skills Development in Ireland.

ADAPT has proven through the Debunked project that these recommendations, when applied, can directly increase data literacy skills. This project is one initiative of many that ADAPT provide to address the shortfall in data literacy skills across the Irish population, including initiatives for primary and secondary schools as well as adults.

ADAPT is interested in hearing from any organisations, funders or individuals who would like to work with it on these projects and other initiatives to address the shortfall in data literacy skills and grow digital competence in Ireland.





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