Be Internet Legends and Be Internet Citizens

Impact Report

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Executive summary

The internet provides an incredible number of benefits and opportunities, from unfettered global connectivity to unparalleled convenience in our daily lives. A world of information and entertainment now lies at our fingertips. Digital technology has transformed the way that people explore, learn and create in new and exciting ways. It is no surprise then that these technologies are central to our lives: 90% of UK households now have internet access,[1] and 89% of adults living in the UK use the internet at least weekly.[2]

Young people in particular enjoy the numerous advantages the digital world offers, whether by using it as a means of education, a way to connect with family, friends or new people, or to boost self-esteem by finding inspiration online. They are also among the most prolific users of the internet: according to Ofcom, 97% of 8–15 year olds go online each week for 14–21 hours.[3] Almost 40% of British 15 year olds are spending over six hours online every day.[4]

But with any new technology, in addition to the benefits it provides, there is the potential for improper or malign use. In addition to bringing people together, informing them and making government data more accessible, the digital world can also be used by bad actors to polarise society, harass and manipulate individuals. As a society, we need to confront these online harms, which can include everything from divisive hate speech posts and intimidating acts of cyberbullying, to misinformation and disinformation.

Young people are especially vulnerable to these harms: according to the Royal Society for Public Health, over a third of British 12–15 year olds have encountered racist, sexist or discriminatory content online,[5] and 7 in 10 young people have experienced cyberbullying.[6] Three-quarters of 12–15 year olds say they are aware of fake news,[7] but only a shocking 2% of children have the critical literacy skills to determine whether an online news story is real or fake. Two-thirds of teachers believe this is causing considerable levels of anxiety in young

people.[8] The increase of technology in our daily lives has exposed the need to build young people's skills to deal with new online challenges.

Education and the empowerment of youth has a huge role to play in tackling these issues. Young people should be taught how to develop their critical thinking skills, communicate online in a constructive and empathetic way, and how to demonstrate positive behaviours as active digital citizens. To support this process, Google is working with the Institute for Strategic Dialogue (ISD) and Parent Zone to deliver two education programmes that seek to build digital resilience and citizenship. They aim to increase young people's ability to stay safe online, as well as develop the norms and behaviour that can help to create positive, pro-social online communities.

Be Internet Legends is a programme for children aged 7 -11, created by Google in partnership with the digital family experts at Parent Zone. The programme is delivered through both an extensive series of assemblies and through teachers delivering the curriculum to their students.

Be Internet Citizens is a programme for teenagers aged 13–15, developed in partnership with ISD, YouTube Creators for Change, Beatfreeks and expert youth facilitators. The programme was delivered through a series of school-based workshops, teacher trainings and youth worker trainings.

Both programmes are accredited by the PSHE Association, the national body for promoting personal, social, health and economic education.

This summary report presents the findings of an impact and process evaluation of these programmes, designed to ensure that they reached their target audiences, to identify whether the programmes helped drive positive behaviour change in the children and young people that went through the training, and to provide insights into what improvements should be made for future delivery.

We also sought to test different models of delivery: the role of different types of facilitators of each programme, and their setting (whether in formal or non-formal education contexts). The evaluation included pre, post and longitudinal surveys, focus groups, and interviews with young people, teachers and youth workers. It also included comparison groups to control for externalities.

Overall, the evaluation found that both programmes improved the digital citizenship capacities of participating young people, increasing their knowledge.

Key Findings

Overall, both programmes improved the fundamental digital citizenship capacities of participating young people, increasing their knowledge and confidence on key digital issues. Young people overwhelmingly found taking part in the programmes to be a positive and valuable experience, and a majority felt they would change their behaviour online as a result.

We used three measures to assess the impact of these programmes:

- **Average confidence**: digital citizenship programmes should be delivered to all young people, and we wanted to measure the extent to which young people's overall confidence levels increased as a result of these programmes. This measure therefore includes shifts in the overall confidence of the participant group, calculated through the average percentage increase or decrease on a 7-point Likert scale across the entire cohort.

- **Assessing individual confidence**: ultimately, digital citizenship programmes are intended to develop young people who are confident about how to play a positive role in the online community. We therefore wanted to measure the change in the number of individuals who reported high levels of confidence (selecting 5–7 on the Likert scale) before and after the programme.

- **Using knowledge tests**: finally, while confidence is essential for good digital citizenship, we created objective measures to test students' knowledge on digital citizenship concepts. We measured young people's knowledge gains through multiple choice or open text questions.

Be Internet Legends

Overall, 8 in 10 primary school children (83%) who completed the Be Internet Legends programme said that they would **behave differently online** as a result of the lessons.

The largest increases in **overall confidence** measured in the participants were observed in children in years 5–6 on how to build a **positive digital footprint online** (92%), and years 5–6 in **identifying phishing scams** (60%).

These were two of the largest increases in **individual confidence** following the programme:

- Approximately 9 in 10 children in years 3–4 (88%) reported being confident to **speak to an adult about things they encounter online** after the programme, compared with under 8 out of 10 (78%) beforehand.
- 7 out of 10 children (71%) in years 5–6 reported being confident in **identifying phishing**, compared with 2.5 of 10 (25%) beforehand.

These were some of the largest increases in **tested knowledge** following the programme:

- 8 out of 10 children (81%) in years 3–4 demonstrated knowledge of the **key elements of a strong password** after the programme, compared with less than half (47%) beforehand.
- Approximately 4 out of 10 children (44%) in years 5–6 were able to **identify scammers** following the programme, compared with 2 of 10 (25%) beforehand.

The lessons model was the most effective for children participating in Be Internet Legends, showing that longer sessions with deeper engagement lead to greater knowledge and skills gains in children.

Survey results and the interviews with teachers showed that the lessons model had a greater impact on children than the assemblies, which were less conducive to effective teaching and learning. Following the lessons, participants reported greater enjoyment and a greater likelihood to use the internet differently than before, than was reported by children who participated in assemblies. Responses from teachers emphasised that lessons allow for more engagement and in-depth interaction than assemblies, and this is particularly important when delivering a full and pertinent curriculum in primary schools, as younger children require greater attention than older children.

90%

of UK households now have internet access

89%

of adults living in the UK use the internet at least weekly

Be Internet Citizens

Overall, approximately **8 in 10 teenagers (86%)** who participated in the Be Internet Citizens programme felt they had **acquired new skills**, **9 in 10 teenagers (92%)** felt they had **gained new knowledge**, and **7 in 10 teenagers (71%)** felt they would **behave differently online** as a result of being taught by trained teachers.

The largest increases in **overall confidence** were observed in teenagers' understanding of key concepts, including echo chambers (122% increase), filter bubbles (116% increase), scapegoating (79% increase), 'us' versus 'them' argumentation (26% increase) and 'fake news' (25% increase).

These were some of the largest increases in **individual confidence**:

- **Approximately 9 in 10 teenagers (88%)** were confident they could **identify fake news** after being taught the programme, compared with less than 7 out of 10 (68%) beforehand.
- **7 in 10 teenagers (71%)** were confident that they **understood filter bubbles**, compared with just 1 in 10 teenagers (14%) beforehand.

These were some of the largest increases in **tested knowledge**:

- **8 in 10 teenagers (81%)** could **define hate speech correctly three months after** the programme, compared with 6 in 10 (65%) beforehand.
- **7 in 10 teenagers (71%)** were able to **identify fake news three months after** the programme, compared with 4 out of 10 (42%) beforehand.

The train-the-trainer model was the most effective for teenagers participating in Be Internet Citizens; they gained and retained stronger knowledge and skills three months later after being taught the curriculum by teachers and youth workers, compared with the school workshop model.

The programme had particularly successful outcomes for teenagers involved in the teacher and youth

workers model of delivery, suggesting that digital citizenship education is most effective when delivered by practitioners over sessions embedded in school and youth centre timetables. Analysis of the surveys that students completed three months after participating in the programme showed that the students' confidence levels continued to be statistically significant and positive for nine of those confidence measures and all three knowledge questions.

Notably, teenagers retained the significant knowledge of fake news, hate speech and scapegoating that they gained after being taught the curriculum three months after the training. This evidences the success of frontline practitioners at imparting sustainable knowledge of key digital citizenship concepts to young people, and signals a long-term need to invest in training them to teach this type of education to teenagers. Accordingly, Be Internet Citizens should scale up its teacher and youth worker training models, as a cost-effective approach to achieve impact at scale.

Recommendations

Those with the influence to support young people in becoming empowered digital citizens have a responsibility to do so. Tech companies, governments, educators, parents and civil society actors need to work together in order to keep pace with the changes to the digital world and update the education system accordingly. While there is broad recognition of the need to build digital literacy skills and knowledge, as evidenced in the Government's 2019 Online Harms White Paper, stakeholders must go beyond developing digital literacy and focus on the norms and behaviour that comprise digital citizenship.[9]

> "Stakeholders must go beyond developing digital literacy and focus on the norms and behaviour that comprise digital citizenship"

The following recommendations focus on how further collaboration between stakeholders can empower young people to act on the agency they have to improve their online communities as good digital citizens:

- **The UK Government should define and standardise digital citizenship to enable educators to understand what it is and recognise its importance.** The Government's recent proposals for a media literacy strategy should sit at the heart of a wider drive to increase digital citizenship learning.
- **Digital citizenship should be embedded into the national curriculum**, with more specific guidance and training for practitioners on how best to teach it, and through which programme of study it would most effectively be taught. Government should encourage and support school and youth centre leaders to train their staff to deliver digital citizenship learning effectively, combining this training within initial teacher training, continuous professional development and youth worker training.
- All stakeholders in digital education should co-ordinate to **ensure teaching and learning keeps pace with changes in technology** and reflects the nature of contemporary online harms.
- **Digital citizenship education models should be tailored for delivery in informal education contexts**, where in-depth conversations and inspiring practitioners can effect positive behavioural change online.
- **The UK Government should give schools adequate guidance on how to spread digital citizenship across the key stages**, to ensure that gaps do not emerge in students' learning and that knowledge, skills, behaviour and attitudes are developed each year.
- **Adult education for parents and carers should be provided** to ensure they are kept informed of the challenges their children face online.What Is Digital Citizenship?

Existing Digital Citizenship Frameworks

What is digital citizenship?

Digital citizenship as a subject is still very new and underdeveloped in the formal and informal education sectors and there is currently no standard definition of it. From our desk-based review of current approaches to the subject, we learned that several organisations have loosely defined the subject. These definitions tend to be broad and open to much interpretation, which perhaps explains why the approach to teaching the subject often varies greatly throughout the UK, with different schools emphasising teaching different components.

In the report *Growing Up Digital*, the Children's Commissioner describes digital citizenship as

> *how to protect your rights online and respect others' rights; how to disengage as well as engage with the digital world – ultimately, nothing less than how to make the online world a force for good and one which empowers and inspires children, rather than entrapping them.*[10]

Mike Ribble and international organisations MirandaNet Fellowship and the Council of Europe have defined it respectively as 'the continuously developing norms of appropriate, responsible and empowered technology use',[11] and 'the ability to engage positively, critically and competently in the digital environment, drawing on the skills of effective communication and creation, to practice forms of social participation that are respectful of human rights and dignity through the responsible use of technology'.[12] UK-based think tank Demos defines it as 'the effective, informed engagement of individuals in their communities, whether local or digital, and in broader society around issues relating to the public domain'.[13]

While there are clear areas of overlap across existing terms, the absence of a uniform definition for digital citizenship led us to create our own as the basis for education programming in this area:

> *Digital citizenship education develops the knowledge, skills, behaviours and attitudes needed for students to become positive and responsible actors online. This begins at a young age with an understanding of how to be confident, safe explorers online, then extends into recognising their rights and responsibilities online, how to be critical consumers of information and, for teenage students, how to respond to hateful digital content effectively.*

Current Approaches

Formal Education

In order to assess the current approaches taken to teaching digital citizenship, we undertook thorough desk research. While we found several educational resources that support teaching aspects of digital citizenship, there is currently no comprehensive data on the extent to which schools are teaching the subject. We surveyed secondary school teachers participating in Be Internet Citizens, and found that 58% had never taught the subject before, despite 93% thinking it is very important to deliver (see Technical Appendix 3), which further demonstrates the gap between need and effective provision in schools.

Approaches to teaching digital citizenship differ in content and format in primary and secondary schools. Some resources, such as those designed by the Children's Commissioner, strongly emphasise young people's rights online.[14] They focus largely on the terms and conditions of each of the big social media companies, and in doing so seek to educate young people about the rules and laws of the digital world. Other resources pay more attention to the conventional range of online harms that young people face, such as cyberbullying and grooming, thereby emphasising reactive rather than proactive measures young people can take to be safer online.

83%

of primary school children who completed Be Internet Legends said they would behave differently online

44%

of children in years 5–6 were able to identify scammers after the programme, up from 25% prior to taking it

Educational resources on digital citizenship also come in various formats, with differing levels of guidance for teachers. Many are found as clusters of lesson plans on a range of topics with supporting guidance and information on the subject matter for teachers. These lesson plans are often provided without a recommended order of delivery, so they appear to be standalone lessons, rather than part of a cohesive unit of work. Other resources offer a framework of learning objectives and/or outcomes, rather than comprehensive lesson plans. These offer schools a clear sense of how to build their own digital citizenship resources in a way that allows students to develop their skills, knowledge and behaviour in this area across the key stages. A third way of presenting resources is to supply advice and guidance on each topic, providing teachers with detailed information about key online harms, to enable them to formulate their own learning objectives and lesson plans.

Both Be Internet Legends and Be Internet Citizens differ from these approaches, in seeking to provide a unit of work that collates curriculum recommendations, well-structured lesson plans and detailed teacher guidance within one resource. In doing so, these projects hope to remedy the concerns we frequently heard in responses to our surveys and interviews. Teachers told us that they lack the time, support and subject knowledge to source the widely dispersed materials that are currently available, and then assemble them into a single resource that helps them teach digital citizenship teaching and learning effectively.

Informal Education

Youth workers deliver sessions on a wide range of issues that they deem to be a priority for young people in their geographic area. Many provide sessions on social media use and mental health, and broader online safety issues like cyberbullying, but judging from our online research into digital citizenship resources, there appears to be less provision for digital citizenship topics such as dealing with online hate speech, recognising fake news and understanding its impact.

Smaller organisations sometimes use resources

they find online to deliver these topics, and shape them to suit the needs of their young people. Larger organisations such as Young Minds have their own train-the-trainer sessions on social media and wellbeing, designed to support youth workers across the UK in giving their own sessions. Others such as UK Youth and the Prince's Trust develop large-scale projects for direct delivery to young people, though they are often framed in terms of broader 'digital skills' to boost young people's career prospects, rather than to become responsible digital citizens.

Provision for comprehensive digital citizenship learning in youth centres is currently thin across the UK, though the subject became increasingly in vogue in 2018, as issues such as fake news and online hate speech continued to gain prominence in educational and youth discourse. As the formal education sector begins to take the subject more seriously, it is likely that the informal sector will follow suit, since many youth groups use the PSHE Association's learning objectives to underpin their sessions, and these are typically based on statutory guidance.

The Challenges

Since online safety was made a mandatory part of the school curriculum in 2014, it is likely that schools have stepped up their provision of the subject, but the scale of the challenge is still significant, as evidenced by the high rates of discrimination young people are exposed to online outlined above. Youth centres do not have to follow this statutory guidance on what topics they cover during group sessions, and may not prioritise discussing online safety above more urgent issues in their communities. Education in digital citizenship needs to be improved in formal and informal education to ensure that young people today are not only aware of the diverse online harms but equipped with the skills, knowledge and behaviour to respond to them effectively.

Formal Education

In formal education the national curriculum offers a wide scope for digital citizenship to be taught. The citizenship, computing and PSHE programmes provide

the most relevant and practical spaces through which to teach the subject but to date none of them has been adequately updated to meet the current challenges students face online.

The computing programme of study during key stages 1–4 focuses primarily on computer science and how computer systems work. A review of the computing programmes of study in key stages 1–4 shows that online harms, risks and responsibilities are paid less attention than the more technical topics. Furthermore, since replacing information and communications technology with computing in 2014, the Government and schools have struggled to reach targets for recruiting computing teachers, while those who are hired to teach the subject report that they feel under-equipped to do so, and only a quarter have received any continuing professional development (CPD) to support them.[15] This paints a worrying picture of computing as being the vehicle through which to teach digital citizenship.

The citizenship programme of study across key stages 1–4 offers schools strong recommendations on how to teach their students to become well-informed, responsible and active citizens offline. At key stages 3 and 4, schools are guided to teach students how to improve their communities, to appreciate the diverse identities in the UK, and about the need for mutual respect and understanding. This emphasis on social responsibility and developing empathy for others is a core part of digital citizenship, but the current citizenship curriculum does not refer to the digital world as an environment in which to learn and demonstrate these attitudes. Moreover, citizenship is generally held in low esteem by teachers in many schools, who teach it through PSHE rather than as a standalone subject, a point reinforced by the declining number of trained citizenship teachers.[16]

At key stages 1 and 2, citizenship is not a statutory subject, so many primary schools sacrifice teaching it, and instead focus on core subjects and pursuing higher Ofsted ratings.

Schools can also teach digital citizenship through PSHE, and many digital citizenship components can be found threaded through the PSHE Association's comprehensive programme of study. But PSHE is a non-statutory subject in all key stages, and while the national curriculum recommends that all schools deliver robust PSHE programmes, many deprioritise it in favour of core academic subjects. A recent Ofsted report found that up to 40% of English schools are not providing PSHE adequately.[17] Many topics can be covered under PSHE, so digital citizenship, as a relatively new subject, often loses out to those which schools have taught in the past and are embedded in their yearly teaching and learning plans.

The Government has recently made progress in this area, however. In 2017 it made a commitment to make relationship and sex education (RSE) compulsory in secondary schools and relationship education compulsory in primary schools. The draft RSE guidance on keeping children safe in education and the statutory guidance Keeping Children Safe in Education,[18] both published in 2018, suggest that teaching students about online harms, risks, rights and responsibilities is being taken more seriously at a policy level. But with the introduction of mandatory RSE already likely to be delayed by a year to September 2020, more urgency is needed to support schools to embed this learning as soon as possible, particularly as the range of online harms continues to expand, and schools will be stuck constantly having to play catch up.

Both the upcoming government updates to the curriculum and Online Harms White Paper offer good recommendations on what schools should be teaching about the internet, but they offer no renewed advice on where schools should teach these topics.[19] It is clear from our research that the current approach of giving schools the freedom to deliver the core digital

88%

of teenagers were confident they could identify fake news after being taught the programme, compared to 68% prior to it

71%

of teenagers were confident that they understood filter bubbles after the programme, up from 14% prior to it

citizenship components across citizenship, computing and PSHE is not working. Our analysis of teacher surveys later in the report showed that 75% of teachers we trained think that PSHE teachers do not know enough about digital citizenship to teach it effectively in schools, only 18% think it is taught well in their own schools, and 58% had never taught digital citizenship before (see Technical Appendix 3).

Informal Education

In the informal education sector, youth service workers have more autonomy than teachers in deciding what sessions they deliver to young people. Choices on priority subjects for these sessions align with the individual organisation's overarching objectives and the specific needs of young people in their local contexts, rather than being beholden to a national curriculum or exam specifications.

Youth workers tell us in interviews that while more sessions on social media are increasingly being delivered, youth centres often focus on more visible community issues such as gangs, drugs and unemployment. Many give sessions about wellbeing on social media and broader online safety issues like cyberbullying, but there is less provision for other digital citizenship topics such as recognising online hate speech and fake news, and understanding their impact.

When planning sessions, youth workers often look at best practice guidance provided online by the PSHE Association to inform their objectives, so when the new mandatory RSE, which focuses on digital citizenship, comes into practice in 2020, more youth workers may prioritise it as a subject to teach.

Be Internet Legends: Overview

In 2017, Google surveyed more than 200 primary school teachers in the UK to learn about their experience of teaching online safety in the classroom.[20] The survey found that the majority of teachers believe children should start learning about online safety at age 7, with 99% stating that it should be part of the national curriculum.

The survey also revealed that more than 1 in 3 teachers had witnessed an online safety incident – such as someone sharing personal information or cyberbullying – in their classroom. Most teachers said they didn't feel they had the necessary resources to teach online safety to their pupils.

In response to these insights, Google wanted to create a free, scalable programme that would ensure primary school teachers were given the best information and support to equip children with the skills they need to navigate the online world safely and confidently.

98%

of teachers said it was either very important or important to teach digital citizenship

25%

of youth workers said that digital citizenship was either badly taught or very badly taught in their youth centres

Be Internet Legends

Be Internet Legends is a free educational programme created by Google and the family safety experts Parent Zone. It was designed to empower UK key stage 2 pupils (ages 7–11) with the knowledge and skills they need to be safe and confident online explorers.

The programme, officially launched in March 2018, consists of:

- a PSHE Association-accredited resource pack for teachers, which includes lesson plans, stickers, posters and activities
- interactive assembly roadshows across the UK, hosted by Be Internet Legends trainers
- Interland, an online game that teaches the key lessons of internet safety through four fun, challenging games
- a family guide with tips for parents and children to learn together.

The curriculum is built around five internet safety pillars (be Sharp, Alert, Secure, Kind and Brave):

- **Be internet sharp and think before you share**: explore the importance of protecting your online reputation through practical activities exploring what is OK to share on the internet and what is not.
- **Be internet alert and check it's for real**: recognise when something online may not be reliable and identify the clues to determine what's real, fake, misleading or a scam online.
- **Be internet secure and protect your stuff**: learn the tools available to protect yourself and your information online including using strong passwords.
- **Be internet kind and respect each other**: understand what it means to be kind online, respect other people's privacy and respond to negativity encountered online.
- **Be internet brave and when in doubt, discuss**:

it is important to speak to trusted adults and ask for help when coming across tricky or confusing situations online.

The programme was developed collaboratively: an expert steering group brought together representatives from leading organisations including the Oxford Internet Institute, Department for Education and the National Crime Agency's Child Exploitation and Online Protection centre (NCA-CEOP).

This expert-led curation was to ensure that the content in the programme would cover the right topics and themes – meeting the demand for a comprehensive resource that could be used in primary schools to teach key internet safety issues. The curriculum lesson plans were assessed and quality assured by the PSHE Association – the national body for personal, social, health and economic education. While developing the Be Internet Legends curriculum, Google and Parent Zone regularly consulted other internet safety experts to ensure that every element of the programme addressed the things that teachers and families need to know in order to support children when addressing this topic.

In 2018, Be Internet Legends delivered over 800 assemblies in primary schools across the UK, training 120,000 children how to be Sharp, Alert, Secure, Kind and Brave online. Additionally, over 18,000 primary school teachers ordered the resources online, with 53% of them reporting they had used them with an average of 100 children, reaching over an estimated 955,000 children in total.

Four schools in the UK took part in Be Internet Legends as part of this evaluation, each one delivering the programme to pupils. In addition to the lessons, Parent Zone presented the Be Internet Legends assembly to one year group in each school.

Be Internet Citizens: Overview

Young people today are often thought of as digital natives, having grown up in the digital age and spending increasing amounts of time online. But in reality they often lack a wide understanding of the different ways in which the internet can be used as both a positive and a negative tool. This can leave them susceptible to exposure to a range of online risks – from fake news to online hate speech – that contribute to polarisation, hate and extremism, so young people without the skills necessary to navigate the web are vulnerable.

Many teenagers do not receive sufficient digital citizenship and critical thinking education to counter these online harms in either the formal or informal education sector. This reduces their ability to become responsible and empowered users of the internet.

Our research suggests that the current approach of giving schools the freedom to deliver the core digital citizenship components in citizenship, computing and PSHE is not working: 75% of teachers we trained think that PSHE teachers do not know enough about digital citizenship to teach it effectively in schools, only 18% think it is taught well in their schools, and 58% had never taught digital citizenship before (Technical Appendix 3).

Be Internet Citizens was designed to tackle these problems and offer effective digital citizenship education to teenagers across the UK.

Be Internet Citizens

Be Internet Citizens is a PSHE-accredited programme for teenagers aged 13–15, delivered in partnership with Google, the ISD, YouTube Creators for Change, Beatfreeks and expert youth facilitators.

In 2018, Be Internet Citizens sought to teach 13–15 year olds vital critical thinking and digital citizenship skills, to encourage them to have positive voices online while increasing their resilience to hate and extremism, and to fill the gaps in digital citizenship education. It further sought to give teenagers the confidence to be empowered producers and not just consumers of content.

ISD improved and adapted the 2017 curriculum into two new resources: an accredited unit of work for teachers and a community toolkit for youth workers. ISD also designed a new delivery model for the formal and informal education sectors, and a rigorous process for monitoring and evaluating the project.

To ensure that the unit of work was designed for easy use by teachers of all experience levels, staff at the PSHE Association provided invaluable ongoing support. We were very grateful for their pedagogical expertise and detailed knowledge of the PSHE curriculum. They ultimately awarded the unit of work with their Quality Assurance mark.

The unit of work and community toolkit comprised the following lessons:

- **Three Sides to Every Story** - This lesson supports students to develop a good understanding of what fake news, biased writing, echo chambers and filter bubbles are, and to explain their impact on individuals and society. As a result of the learning, they will be more confident in forming their own opinions in online contexts.

- **Emotional Manipulation** - This lesson includes videos that present examples of emotional manipulation, and prompts a discussion around what emotions the videos stimulate, how those emotions are triggered, and the motives of the video creator in stimulating

that emotion. It seeks to develop an increased critical awareness of the use of emotional manipulation.

- **Us vs Them** - This lesson enables students to understand how powerful 'us vs them' divisions can be, and encourages them to think of where they have seen this rhetoric used online. Through the lesson activities, students should understand how divisive arguments can lead to problems in society, as well as being wary of the consequences of labelling individuals. After this and the preceding two lessons, students should have a sound understanding of how certain online social environments can shape opinions. Students will build on that learning in the next lesson to learn how to respond to hate speech and intolerance online.

- **Haters Gonna Hate** – This lesson is designed to help students understand what acceptable and unacceptable online behaviour is, and how to distinguish between hate speech and free speech. The lesson also explores how to react to hateful content online, including the use of various online tools such as reporting, flagging and blocking.

A fifth creative lesson was included in these resources, which encouraged participants to produce a creative output that reflected their new digital citizenship knowledge.

All the project partners contributed to the design of these lessons, and PSHE Association staff helped to ensure that lesson activities for the school workshops and unit of work were framed in a language and structure that young people and teachers would recognise.

All lessons enabled participants to explore complex, topical issues in a way that put open and interesting peer discussion at the forefront of the teenagers' experience. These discussion-based activities were balanced with opportunities for fun, kinaesthetic learning to ensure they were engaged throughout the curriculum. Each lesson was structured around challenging and stimulating learning objectives, the achievement of which could be demonstrated in specific learning outcomes. Recommended differentiation strategies ensured that young people of all learning speeds could understand the key concepts at their own pace. Key talking points and additional guidance were provided on each concept so those teaching were informed and had adequate support.

The Participants and Delivery Models

Direct Delivery: School Workshops

From February to December 2018, a team of expert youth facilitators delivered 11 workshops in 11 schools across the UK; each comprised roughly 150 students from years 9 or 10. In total, roughly 1,500 students were reached through this model. The workshops were designed to teach the students the entire curriculum through fun and interactive sessions across the school day.

The workshops opened and closed with whole-year assemblies where the key messages of the project were stated and reinforced. The four concept-based lessons and creative exercise took place between these assemblies.

Train-the-trainer: Teacher and Youth Worker Training

Between May and October 2018, ISD staff delivered six teacher training sessions on the unit of work to 120 teachers in West London, East London, Cardiff, Manchester, Central London and Birmingham. We also trained external youth facilitators to deliver four full-day training sessions for youth workers on the community toolkit resource. These training days took place in Birmingham, Bristol, Cardiff and London in May, June, July and October 2018, respectively, and reached 180 youth workers in total.

At the end of each training we asked these practitioners to estimate how many young people they would directly reach with the resources in the following 12 months. The influence of the programme overall was estimated to be **20,316 teenagers**.

Be Internet Legends: Evaluation

Methodology

We evaluated the Be Internet Legends curriculum (which consists of five pillars – Sharp, Alert, Secure, Kind and Brave) in four primary schools in the UK, which are representative samples of the schools that currently participate and/or have participated in the programme. In each school:

- we delivered pre and post surveys to all key stage 2 children
- a selection of participant children participated in a qualitative focus group
- two teachers participated in semi-structured interviews about their experience with the curriculum.

Criteria

We set out selection criteria for schools to ensure the evaluation was representative of schools currently engaging with Be Internet Legends and as representative as possible of the general UK primary school student population while maintaining comparability between schools. These were our selection criteria for schools:

- be in different areas (one in London, one in the Midlands, one in the North and one in Wales); Scotland was excluded as the education system varies from that in the rest of the UK, a variable that could have interfered with the evaluation
- ideally have a minimum of 500 key stage 2 pupils (roughly 125 students per year)
- have fairly uniform Outstanding or Good Ofsted ratings
- have high teacher engagement
- have no previous interaction with the Be Internet Legends programme.

Sampling Plan

The curriculum can be delivered in two formats: via a series of lessons or in a large assembly. This evaluation aimed to understand the impact of these models, and the potential for increased effectiveness by delivering both to children. In order to capture these effects, we created three distinct intervention groups. A fourth group had no interaction with the curriculum and was used as a comparison group in the evaluation.

Surveying

All children (participants and control group) were surveyed twice: before and immediately after the intervention. The pre survey asked:

- basic demographic questions (e.g. age, birth country, language spoken at home)
- confidence questions on a Likert scale, measuring students' confidence in and understanding of key curriculum elements
- open response knowledge questions, measuring children's knowledge of key curriculum elements.

The post survey included the same confidence and knowledge questions, and process questions to understand children's experience with the programme. As the curriculum for years 3–4 varied slightly from that for years 5–6, we included fewer confidence questions in the survey for younger children. All surveys were matched using ISD's anonymous matching system. See Technical Appendix 1 for full analysis.

We analysed differences between the pre and post surveys statistically to determine which changes could be attributed to the curriculum. The control group served as a comparison for intervention groups, controlling for potential externalities that may have affected all children equally during programme delivery. Full details of this statistical analysis can be found in Technical Appendix 1.

> We set out selection criteria for schools to ensure the evaluation was representative of schools currently engaging with Be Internet Legends

Focus Groups and Teacher Interviews

We ran student focus groups in each school to obtain further qualitative data about the children's experience with the programme, their understanding of the concepts, what worked well and how the curriculum could potentially be improved.

We held interviews with two teachers per school to find out the teachers' views of the curriculum, what they thought worked well, and areas they thought could be improved.

Limitations

There is one key limitation to note when discussing these results. These surveys primarily consist of self-assessed confidence measures. Children of primary school age are not always able to assess their understanding of concepts accurately, particularly in an area where they may not be very knowledgeable such as this one. All questions on the surveys were discussed with representatives from Parent Zone to ensure they were appropriate and understandable to this age group, yet it is difficult to control for this effect entirely. Therefore, some of these findings may underestimate actual impact.

Impact on Younger Primary School Students: Years 3–4

The impact of participating in Be Internet Legends for younger primary school aged children was most consistent when they were given prolonged exposure to and interaction with the material (in the lessons and combined delivery models). The children showed they understood the key curriculum concepts, in particular following the combined delivery model in particular.

This trend was particularly pronounced in responses children gave to knowledge questions about digital footprints and strong passwords. Children who had participated in both delivery formats demonstrated significant increases in understanding of the concepts covered after the programme, from quite low baselines.

Responses to questions related to Sharp and Brave units of the curriculum showed that these units of the programme had the strongest beneficial effect on participants, and the children's understanding of concepts covered in the Brave unit increased significantly across all three delivery models. Children appeared to be much more confident speaking to adults about things they encountered online than they were before the interventions.

There was a statistically significant 12% negative shift in children's confidence in keeping their posts private online. This may be due to an effect known as response shift bias,[21] where children overestimate their confidence before an intervention and provide more realistic answers once they have learned more about the relevant issues. It is possible that this programme provided greater awareness of risks around privacy to the children, which ultimately decreased their confidence in response to this statement.

There was no significant change in responses to many statements following the interventions (compared with responses to the same statements asked beforehand), suggesting there is room for improvement in the curriculum to ensure the programme has a consistent and positive impact for all children. This is discussed further in the thematic analysis later in this chapter.

Table 5.1 presents a statistical analysis of the responses to the surveys of children in years 3 and 4 who took part in Be Internet Legends, showing where their confidence and knowledge improved as a result of the intervention. Asterisks indicate where there were statistically significant shifts.

Table 5.1 Average change in confidence and knowledge measures based on pre and post surveys by children in years 3 and 4 who participated in Be Internet Legends

Confidence measures	Pre mean	Post mean	Change (%)	Significance	Post mean	Change (%)	Significance	Post mean	Change (%)	Significance
I know how I can build a good digital footprint online.	2.97	3.54	19		3.38	14		4.23	43	*
I think about how to keep my posts private when I share things online.	4.97	4.37	–12	**	4.83	–3		5.54	11	
I know how to protect my personal information online.	4.97	4.83	–3		4.77	–4		5.89	19	
I know how to spot a phishing attack online.	3.22	3.50	9		3.54	10		4.25	32	
I know how to spot if something online is false or trying to trick me.	4.98	4.83	–3		5.23	5		5.81	17	
I know how to tell if someone I meet online is someone I can trust.	4.61	5.17	12		4.54	–2		5.08	10	
I know when to talk to an adult about something that may confuse or scare me online.	5.72	6.10	7	**	5.82	2		6.28	10	**
I know when I should be brave and talk about things that may scare me online with an adult.	5.45	5.46	0		5.48	1	*	5.96	9	
I know which adult I can talk to about things that may confuse or scare me online.	5.72	5.92	4		5.47	–4		6.23	9	

Knowledge measures	Pre (% of correct responses)	Post (% of correct responses)	Significance	Pre (% of correct responses)	Post (% of correct responses)	Significance	Pre (% of correct respones)	Post (% of correct responses)	Significance
Digital footprint	3	29	***	0	45		7	28	***
Strong password	56	65	**	5	56	*	47	81	***

Key Lessons Assembly Combined

Impact on Older Primary School Students: Years 5–6

Older primary school children in years 5 and 6 who participated in Be Internet Legends increased their confidence most consistently from the assembly model of delivery: their responses to three questions following the intervention showed they had benefited from the programme. However, the strongest knowledge increases occurred among children who participated in the lessons model of delivery: their understanding of digital footprints and the concept of 'upstanders' (someone who intervenes to stop and/or report inappropriate behaviour) increased significantly following the intervention.

There was a significant increase in understanding of what an upstander was among children across all delivery models – one of the most successful results of this curriculum. While overall understanding of the concept of 'upstander' remained relatively low following the intervention, it is important to note that children were coming from a near zero baseline, given that this was a relatively unique concept used in the programme.

There was at least one significant increase in confidence among children in years 5 and 6 who participated in all delivery models for each pillar of the curriculum except Brave. Those running future iterations of the programme may need to reassess how this pillar is taught to this age group, to improve children's confidence in addressing the topics covered.

Unlike with the younger children, there were no significant decreases in confidence or knowledge for the older children after participating in Be Internet Legends, suggesting that the full curriculum for older children covers the risks they may encounter online effectively, without having a negative impact on their confidence.

However, as with the younger children, there was no discernible change in responses to many statements following the interventions (compared with responses to the same statements asked beforehand), suggesting there is room for improvement.

Table 5.2 presents a statistical analysis of the responses to the surveys of children in years 5 and 6 who took part in Be Internet Legends, showing where their confidence and knowledge improved as a result of the intervention. Asterisks indicate statistically significant shifts.

Table 5.2 Average change in confidence and knowledge measures based on pre and post surveys by children in years 5 and 6 who participated in Be Internet Legends
Continues overleaf

Confidence measures	Pre mean	Post mean	Change (%)	Significance	Post mean	Change (%)	Significance	Post mean	Change (%)	Significance
I know how I can build a good digital footprint online.	2.72	5.21	92	**	3.34	23		4.61	70	***
I think about how to keep my posts private when I share things online.	5.69	6.25	10		5.76	1		5.72	1	
I know how to protect my personal information online.	5.98	6.25	5		6.06	1		6.09	2	
I know how to spot a. phishing attack online.	3.28	5.40	65		4.28	31	*	5.24	60	**
I know how to spot if something online is false or trying to trick me.	5.55	6.22	12		5.48	−1		5.75	4	
I know how to tell if someone I meet online is someone I can trust.	4.85	5.66	17		5.65	17		5.07	4	
I know how to build a strong password.	5.78	6.32	9		6.42	11	**	6.00	4	
I know how to use my security setting to stay safe online.	5.09	5.88	16		5.51	8		5.45	7	
I would know how to find help if I feel unsafe online.	5.79	6.32	9		6.24	8		6.03	4	
I would know what to do if I saw hurtful behaviour online.	5.71	6.31	10		6.21	9	*	5.87	3	
I feel responsible for the wellbeing of people connected to me through social media.	4.62	5.37	16		4.70	2		4.39	−5	
I consider the motivations behind why people post things online.	4.55	5.22	15		4.95	9		4.94	9	
I know when to talk to an adult about something that may confuse or scare me online.	6.25	6.24	0		6.46	3		6.31	1	

Key Lessons Assembly Combined

Table 5.2 Average change in confidence and knowledge measures based on pre and post surveys by children in years 5 and 6 who participated in Be Internet Legends

Confidence measures	Pre mean	Post mean	Change (%)	Significance	Post mean	Change (%)	Significance	Post mean	Change (%)	Significance
I know when I should be brave and talk about things that may scare me online with an adult.	6.03	5.91	–2		6.41	6		6.15	2	
I know which adult I can talk to about things that may confuse or scare me online.	6.30	6.33	1		6.61	5		6.27	0	

Knowledge measures	Pre (% of correct responses)	Post (% of correct responses)	Significance	Pre (% of correct responses)	Post (% of correct responses)	Significance	Pre (% of correct respones)	Post (% of correct responses)	Significance
Digital footprint	5	29	***	6	6		4	17	
Strong password	42	78		54	73		42	62	
Scammer	22	40		25	44	*	23	19	
Upstander	5	29	***	0	6	*	4	36	***

Key Lessons Assembly Combined

Thematic Analysis of the Five Pillars

The curriculum of Be Internet Legends is divided into five pillars, as detailed in Chapter 3 – Sharp, Alert, Secure, Kind and Brave – which are analysed individually in the following sections.

Sharp

The Sharp pillar teaches children to build and protect a positive online reputation, by asking them to consider what information they choose to share online. The pillar is taught through a series of activities that were designed to facilitate discussions on the importance of privacy online, how people can form judgements about others based on their 'digital footprints' and the personal information they choose to share, and how to respect others' privacy online.

Perhaps the strongest result from the evaluation comes from the Sharp pillar. This includes one of the key concepts from the curriculum, the digital footprint. Both groups (years 3–4 and years 5–6) showed significant increases in confidence and knowledge of this concept after participating in Be Internet Legends, as displayed in Figure 5.1 (where only statistically significant results are displayed).

There was a 92% increase in average confidence among older children who participated in the lessons delivery model, for example, with 65% of children reporting they felt confident building a digital footprint online following the intervention. In both year groups, knowledge increased significantly around these topics, with roughly 30% of children able to describe a digital footprint correctly following the interventions. Though knowledge remained relatively low, the change in both groups represents a significant improvement from baseline measures.

This demonstrates one of the key strengths of the programme, which is to draw children's attention to the repercussions of information shared online. Children in focus groups had a good understanding of why sharing personal information online could be dangerous, with one child remarking, 'You don't want a hacker getting into your account and getting your information.'

However, as noted, there was a statistically significant decrease in the confidence of younger children to keep posts private (12% drop in average confidence) following the intervention. This was also noted in focus groups conducted with children. One child ventured, 'We should never ever talk to strangers because they could pretend to be our friend, but they can be really mean. If they know where you live, they might kidnap you or something.' Future iterations of the programme should endeavour to raise children's awareness around risks without having a negative impact on confidence, as was seen here.

Alert

The Alert pillar seeks to develop children's critical thinking skills by enabling them to recognise that online content can be deceptive and unreliable, and in some cases designed to steal people's personal information. The activities in this pillar introduced children to the concepts of scamming and phishing, and discussions covered how to identify suspicious emails and texts, how to verify people's identities online, and what practical steps to take if they encounter something worrying online.

This pillar had the least impact across delivery models and year groups. There were only positive results from this thematic area for the older children:

- There were 31% and 60% increases in confidence for the assembly and combined delivery models, respectively, in identifying phishing attacks (see Figure 5.2). Over 70% of older children in the combined delivery model were confident they could identify phishing, compared with 25% of older children beforehand.

- There was an increase of 75% in knowledge of scammers among children from the assembly model, with 44% of children able to identify a scammer after the intervention, compared with 25% beforehand (Figure 5.2).

The confidence and knowledge of phishing and scammers (two key concepts in keeping personal data safe online) of older children who took part in Be Internet Legends increased following this intervention.

Figure 5.1 The confidence levels of participants in years 3–4 and 5–6 in building a good digital footprint online and the percentage who knew what a digital footprint before and after participating in Be Internet Legends lessons

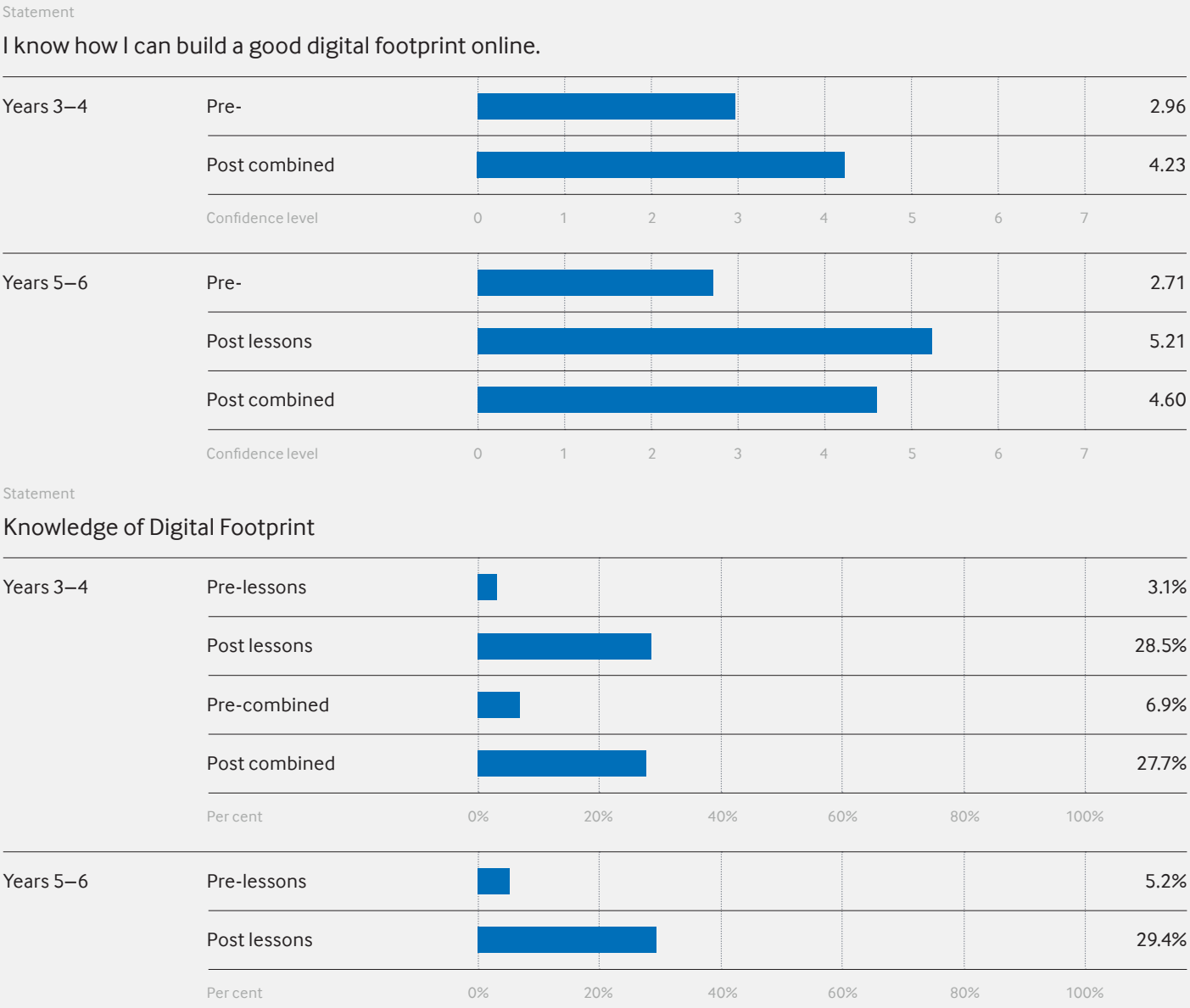
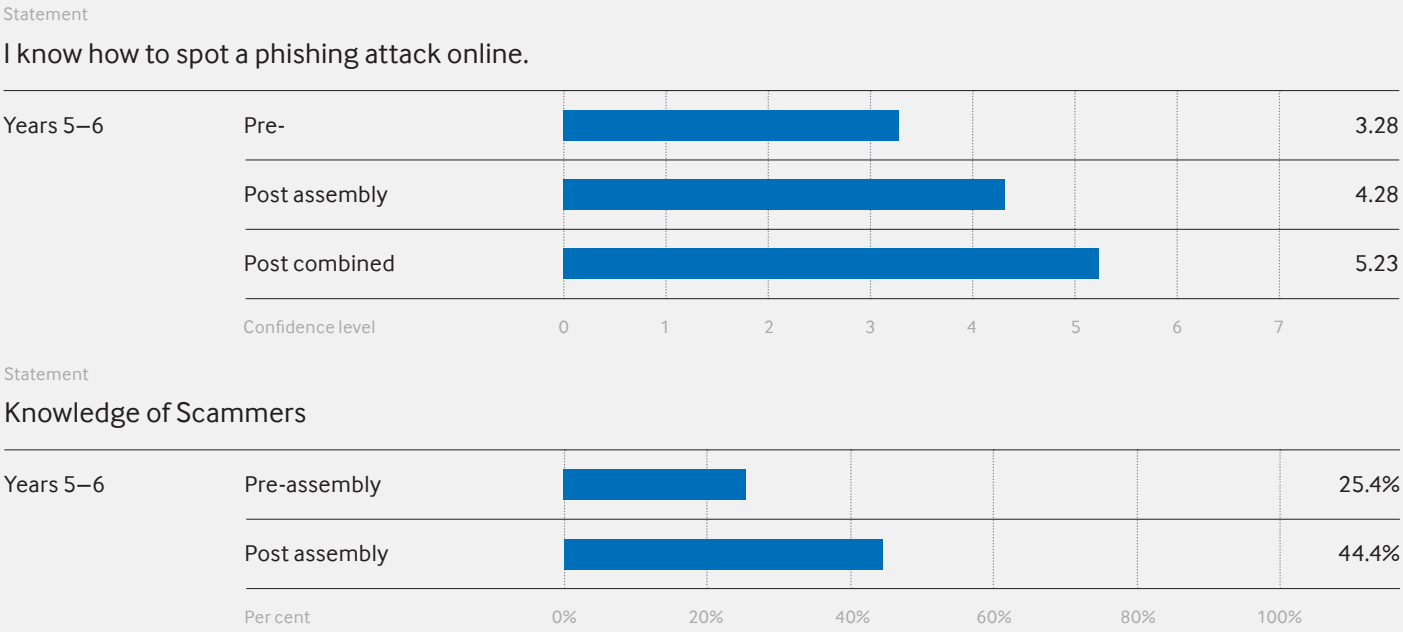


Figure 5.2 The confidence levels of participants in years 5–6 in knowing how to spot a phishing attack and the percentage of them who knew about scammers before and after participating in Be Internet Legends lessons and assemblies



Secure

The Secure pillar focuses predominantly on how strong passwords and security settings online can be used to protect personal information. Through the activities, children learned how to develop safe habits online, respect online privacy boundaries, and seek or ask for help if they feel unsafe on the internet. From the discussions that took place, children learned what a strong password looks like and how to update their privacy settings online.

This pillar had a strong positive impact, particularly among younger children. Across all delivery models, there was a significant increase in knowledge of strong passwords among younger children who had participated in the programme. For instance, after participating in the combined delivery model, 81% of children could describe the elements of a strong password, compared with 47% beforehand (see Figure 5.3).

On the other hand, there was no significant increase in knowledge among older children after this intervention, though confidence related to this concept among those participating in the assembly delivery model increased by 11% following the intervention.

Kind

The Kind pillar teaches children how to build and maintain healthy relationships online through interacting positively with others. The activities guided children to demonstrate empathy towards others, understand the difference between being a 'bystander' and an 'upstander', and respond effectively to negativity when they encounter it online. Children learned practical strategies to respond to negative content, and how to identify sources of support to help if they experience hurtful behaviour online.

This pillar had some positive impact among older children involved in the training. As discussed above, in all intervention groups there was a significant increase in knowledge of what it means to be an 'upstander', or someone who intervenes to stop and/or report inappropriate behaviour, following the training (Figure 5.4).

Although their knowledge of what an upstander is increased as a result of the intervention, few children were confident about knowing what to do when they saw hurtful behaviour online, felt responsible for the wellbeing of others online or considered the motivations for posts. Only in one instance was there an increase in confidence related to the Kind pillar: there was a 9% increase in children's confidence in knowing what to do if they witnessed hurtful behaviour online following the intervention for older children involved in the assembly delivery model.

The curriculum was effective in covering how to identify good behaviour online – being an upstander – but the evaluation suggests that more sustained focus is needed to build children's confidence to put this knowledge into practice.

Brave

The final pillar of the curriculum, Brave, centres on helping children understand when they should speak to an adult about certain things they encounter online. The recommendations made in this unit outline a range of situations in which support from a trusted adult would be valuable.

This pillar had the most consistent impact among younger children, who reported more confidence in knowing when to speak to an adult after the intervention (see Figure 5.5). For instance, 88% of children involved in the combined delivery model expressed confidence in this measure following the intervention (compared with 78% before). However, there was no discernible impact of the pillar on older children who had participated in the training.

In focus groups, children demonstrated their understanding of being brave online. One child defined this as 'standing up for oneself from online bullying and reporting it to adults in general and parents in specific'.

Although the confidence of younger children in this important part of online safety – involving adults – increased following this intervention, it had no similar impact on older children. Future iterations of this programme should potentially reassess how this pillar is taught to older students so it is more effective.

Figure 5.3 **The percentage of participants in years 3–4 who understood what makes a strong password and the confidence level of participants in years 5–6 in building a strong password before and after participating in Be Internet Legends lessons and assemblies**

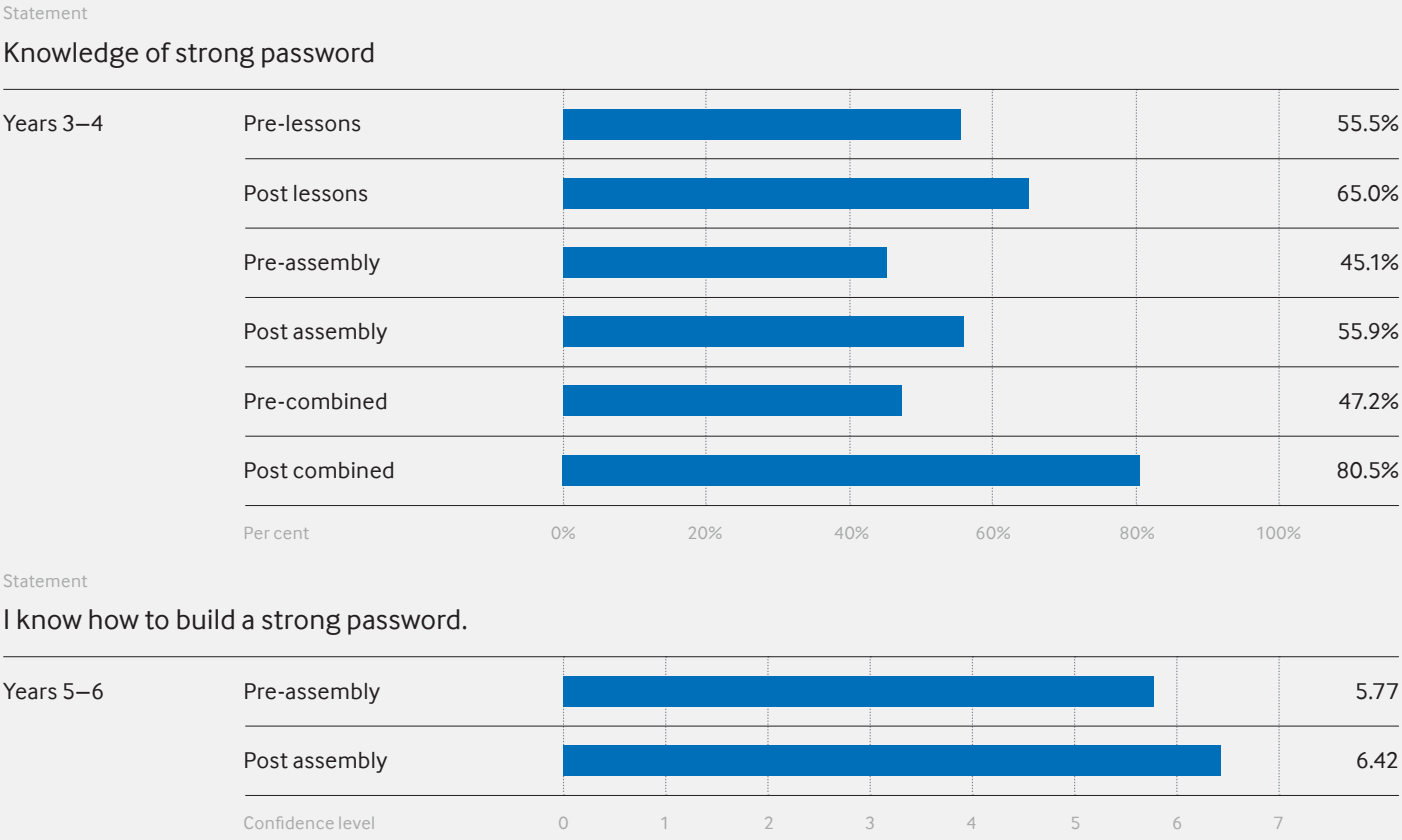


Figure 5.4 The percentage of participants in years 5–6 knew what 'upstander' means before and after training in lessons or assemblies

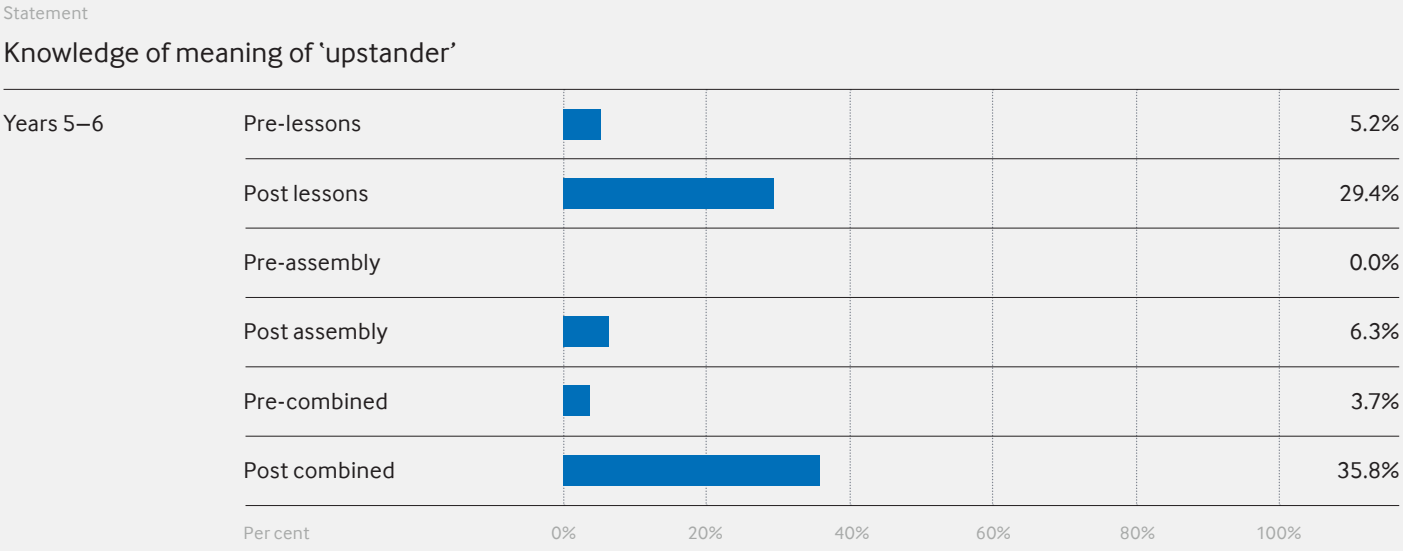
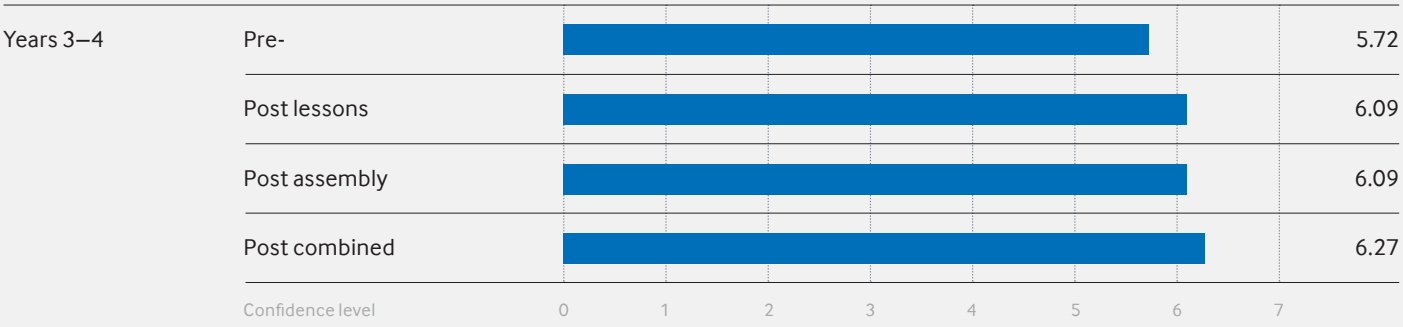


Figure 5.5 The confidence levels of participants in years 3–4 in knowing when to speak to an adult after participating in Be Internet Legends lessons or assemblies



Be Internet Citizens: Evaluation

Methodology

School Workshops Model

The evaluation of the school workshops drew on quantitative and qualitative measurement methods: participant student and control group student pre and post surveys designed to measure changes in skills, knowledge, attitudes and behaviour, through a series of confidence-based Likert scale measures. In the post surveys, we investigated the experiences of participant students in the school workshops.

We administered three- and six-month follow-up post surveys to participant and control group students, to track the long-term retention rates of these changes. These surveys were complemented by evaluations from four focus groups with 32 participating students, who gave detailed insights into their experiences of the school workshops.

We conducted interviews with three teachers to gain an understanding of the school within which the workshops took place and the subsequent impact of the workshops.

Trained Teachers and Youth Workers Model

We asked 223 teenagers taught by the trained teachers and youth workers to complete the same post surveys, which investigated the impact of the lessons.

We tracked the long-term retention rates of these changes via three-month follow-up post surveys.

The full description of our evaluation methodology can be found in Technical Appendix 2.

Demographics

We collected relevant participant demographic information through the participant pre surveys for both models. This was important to ensure that we measured any beneficial impacts of Be Internet Citizens on those who participated in it, and identified individuals who had benefited from the programme.

The demographic details demonstrate that the programme reached its intended target audience by age and gender, but needs to diversify the school workshop target audience in future to ensure it reaches a representative sample of teenagers. The full breakdown of demographic data can be found in Technical Appendix 2.

Impact Summary: School Workshops

This section presents the key findings of our evaluation of a sample size of 440 participant and control group students. The comparison of the change between student participant and control groups in the pre, post and three- and six-month follow-up surveys demonstrates that the programme had varying levels of impact across measures. These ranged from statistically significant variations, to positive changes that were notable but could not be regarded as statistically significant in this context, to negative decreases that were not statistically significant.

Between the pre and post surveys there were statistically significant positive changes in the responses to ten confidence measures and two knowledge questions, and notable positive changes in response to five confidence measures and one knowledge question.

Analysis of the surveys that students completed three months after participating in the programme showed that the students' confidence levels had changed to a statistically significant and positive degree. There were positive notable changes in their responses to eight of the confidence measures and the three knowledge questions, but negative changes for the remaining two confidence measures.

Analysis of the surveys students completed six months after participating in the programme showed that their confidence levels continued to be statistically significant and positive for two of the confidence measures. For nine of the confidence measures and the three knowledge questions there were positive notable changes in the students' confidence levels, and there was no change or a negative change in their confidence levels in four remaining confidence measures (Table 6.1).

Table 6.2 shows the average change in confidence and knowledge measures of children before and three months after participating in Be Internet Citizens school workshops, and Table 6.3 shows this average change in children before and six months after participating in these workshops.

Table 6.1 Average change in confidence and knowledge measures before and after participating in Be Internet Citizens school workshops

Confidence measures	Pre mean	Post mean	Change (%)	Significance
I am always happy to listen to people expressing different worldviews to my own.	5.24	5.38	3	
I feel confident expressing my views online.	4.26	4.63	9	***
I feel responsible for the wellbeing of people connected to me through social media.	4.04	4.11	2	
If I wasn't sure a story was true, and I wanted to share it, I'd fact check it first.	4.85	5.08	5	
I consider the motivations behind why people post things online.	4.35	4.62	6	
I'm motivated to seek out views and opinions that differ to my own online.	3.90	4.33	11	**
I would know what to do if I came across hate speech online.	5.07	5.51	9	
I know how and why to 'flag' or report social media content.	5.62	5.85	4	*
I would recognise 'Us vs Them' arguments online.	4.26	5.38	26	***
I would recognise when a social media post, article or website is designed to emotionally manipulate people.	4.97	5.43	9	**
I understand the differences between hate speech and free speech.	5.14	5.76	12	***
I understand what echo chambers (also known as 'the bubble') are.	2.42	5.38	122	***
I understand what the 'filter bubble' is.	2.48	5.36	116	***
I would be able to identify 'fake news'.	4.56	5.70	25	***
I understand what 'scapegoating' is.	2.88	5.16	79	***

Knowledge measures	Pre (% of correct respones)	Post (% of correct responses)	Significance
Fake news	24	40	***
Hate speech	23	23	
Scapegoating	20	23	***

Table 6.2 Average change in confidence and knowledge measures before and three months after participating in Be Internet Citizens school workshops

Confidence measures (pre- and 3-month follow-up)	Pre mean	3-month mean	Change (%)	Significance
I am always happy to listen to people expressing different worldviews to my own.	5.37	5.34	–1	
I feel confident expressing my views online.	4.40	4.51	2	
I feel responsible for the wellbeing of people connected to me through social media.	4.18	4.31	3	
If I wasn't sure a story was true, and I wanted to share it, I'd fact check it first.	4.68	4.73	1	
I consider the motivations behind why people post things online.	4.43	4.46	1	
I'm motivated to seek out views and opinions that differ to my own online.	4.01	4.27	7	
I would know what to do if I came across hate speech online.	5.05	5.11	1	
I know how and why to 'flag' or report social media content.	5.55	5.43	–2	
I would recognise 'Us vs Them' arguments online.	4.09	4.81	18	**
I would recognise when a social media post, article or website is designed to emotionally manipulate people.	4.92	4.98	1	
I understand the differences between hate speech and free speech.	504	5.35	6	
I understand what echo chambers (also known as 'the bubble') are.	2.40	4.36	82	***
I understand what the 'filter bubble' is.	2.48	4.32	74	***
I would be able to identify 'fake news'.	4.52	5.36	19	***
I understand what 'scapegoating' is.	2.94	4.71	60	***

Knowledge measures (pre and 3-month follow-up)	Pre (% of correct respones)	3-month (% of correct responses)	Significance
Fake news	24	26	
Hate speech	78	84	
Scapegoating	72	83	

Table 6.3 Average change in confidence and knowledge measures before and six months after participating in Be Internet Citizens school workshops

Confidence measures (pre and 6-month follow up)	Pre mean	6-month mean	Change (%)	Significance
I am always happy to listen to people expressing different worldviews to my own.	5.67	5.40	–5	
I feel confident expressing my views online.	4.36	4.52	4	
I feel responsible for the wellbeing of people connected to me through social media.	4.10	4.24	3	
If I wasn't sure a story was true, and I wanted to share it, I'd fact check it first.	4.93	5.00	1	
I consider the motivations behind why people post things online.	4.76	4.56	–4	
I'm motivated to seek out views and opinions that differ to my own online.	4.41	4.31	–2	
I would know what to do if I came across hate speech online.	4.76	5.00	5	
I know how and why to 'flag' or report social media content.	4.92	5.05	3	
I would recognise 'Us vs Them' arguments online.	3.88	4.83	25	
I would recognise when a social media post, article or website is designed to emotionally manipulate people.	4.70	4.80	2	
I understand the differences between hate speech and free speech.	5.07	5.05	0	
I understand what echo chambers (also known as 'the bubble') are.	2.61	4.83	85	***
I understand what the 'filter bubble' is.	2.68	4.39	64	**
I would be able to identify 'fake news'.	4.02	5.07	26	
I understand what 'scapegoating' is.	3.05	4.93	62	

Knowledge measures (pre and 6-month follow up)	Pre (% of correct respones)	Post (% of correct responses)	Significance
Fake news	42	71	***
Hate speech	75	85	
Scapegoating	79	81	

Impact Summary: Trained Teachers and Youth Workers

This section presents the key findings of our evaluation of 223 teenagers who were taught the curriculum by teachers and youth workers who had attended a Be Internet Citizens train-the-trainer event. The change between the teenagers' baseline and post-delivery Likert values in the pre-, post- and three-month follow-up surveys demonstrates that the programme had varying levels of positive impact on them across measures. These ranged from statistically significant increases in knowledge and confidence, to positive changes that were notable but could not be regarded as statistically significant in this context, to negative decreases that were not statistically significant.

Between the pre and post surveys there were statistically significant positive changes in the responses the teenagers gave to 12 confidence measures and all three knowledge questions, and notable positive changes in the extent to which they agreed with three confidence measures.

Analysis of the surveys that the teenagers completed three months after participating in the programme showed that their confidence levels continued to be statistically significant and positive for nine of those confidence measures and all three knowledge questions. There were positive notable changes in their confidence levels for three of the confidence measures, but a negative change in their confidence levels in the remaining three confidence measures (tables 6.4 and 6.5).

Table 6.4 Average change in confidence and knowledge measures before and after being taught the Be Internet Citizens curriculum by trained teachers or youth workers

Confidence measures	Pre mean	Post mean	Change (%)	Significance
I am always happy to listen to people expressing different worldviews to my own.	5.12	5.48	7	***
I feel confident expressing my views online.	4.36	4.99	14	***
I feel responsible for the wellbeing of people connected to me through social media.	4.54	4.58	1	
If I wasn't sure a story was true, and I wanted to share it, I'd fact check it first.	5.06	5.60	11	***
I consider the motivations behind why people post things online.	4.48	5.02	12	***
I'm motivated to seek out views and opinions that differ to my own online.	4.13	4.76	15	***
I would know what to do if I came across hate speech online.	5.67	5.81	2	
I know how and why to 'flag' or report social media content.	5.89	5.97	1	
I would recognise 'Us vs Them' arguments online.	4.66	5.52	19	***
I would recognise when a social media post, article or website is designed to emotionally manipulate people.	5.13	5.60	9	***
I understand the differences between hate speech and free speech.	5.73	6.16	7	***
I understand what echo chambers (also known as 'the bubble') are.	2.47	5.40	119	***
I understand what the 'filter bubble' is.	2.75	5.41	97	***
I would be able to identify 'fake news'.	5.18	5.96	15	***
I understand what 'scapegoating' is.	2.45	5.42	122	***

Knowledge measures	Pre (% of correct respones)	Post (% of correct responses)	Significance
Fake news	35	62	***
Hate speech	41	52	***
Scapegoating	38	50	***

Table 6.5 Average change in confidence and knowledge measures before and three months after being taught the Be Internet Citizens curriculum by trained teachers or youth workers

Confidence measures (pre and 3-month follow up)	Pre mean	3-month mean	Change (%)	Significance
I am always happy to listen to people expressing different worldviews to my own.	5.32	6.06	14	***
I feel confident expressing my views online.	4.52	4.74	5	
I feel responsible for the wellbeing of people connected to me through social media.	4.54	5.03	11	
If I wasn't sure a story was true, and I wanted to share it, I'd fact check it first.	5.15	5.57	8	
I consider the motivations behind why people post things online.	4.52	4.92	9	**
I'm motivated to seek out views and opinions that differ to my own online.	4.30	5.06	18	***
I would know what to do if I came across hate speech online.	5.84	5.78	–1	
I know how and why to 'flag' or report social media content.	6.16	6.11	–1	
I would recognise 'Us vs Them' arguments online.	4.53	5.33	18	***
I would recognise when a social media post, article or website is designed to emotionally manipulate people.	5.32	5.71	7	***
I understand the differences between hate speech and free speech.	6.00	5.86	–2	
I understand what echo chambers (also known as 'the bubble') are.	2.29	5.20	127	***
I understand what the 'filter bubble' is.	2.63	5.12	95	***
I would be able to identify 'fake news'.	5.42	6.08	12	***
I understand what 'scapegoating' is.	2.08	5.22	151	***

Knowledge measures (pre and 3-month follow up)	Pre (% of correct respones)	3-month (% of correct responses)	Change (%)	Significance
Fake news	35	39	12	
Hate speech	65	81	24	***
Scapegoating	60	75	24	***

Thematic Analysis

The confidence and knowledge measures that were most successful for both delivery models centred on a number of key themes, including key concepts relevant to potentially negative aspects of online behaviour, and increased skills related to information consumption and fake news.

Less successful confidence measures were aligned with key themes such as understanding the difference between hate and free speech and confidence online.

It must be emphasised here that it is common for young people to be overconfident when initially reporting their skills levels on a Likert scale. This partly explains some of the higher baseline scores across these measures, yet makes the findings that were statistically significant even stronger. Moreover, the knowledge questions included in the surveys provide insight into how well young people gauge their skills levels on the Likert scale against their actual knowledge.

The thematic grouping of the more and less successful elements of the programme and the content themes in the curriculum allow us to draw useful insights from these results to improve and refine future delivery of the programme. The results are analysed by theme below.

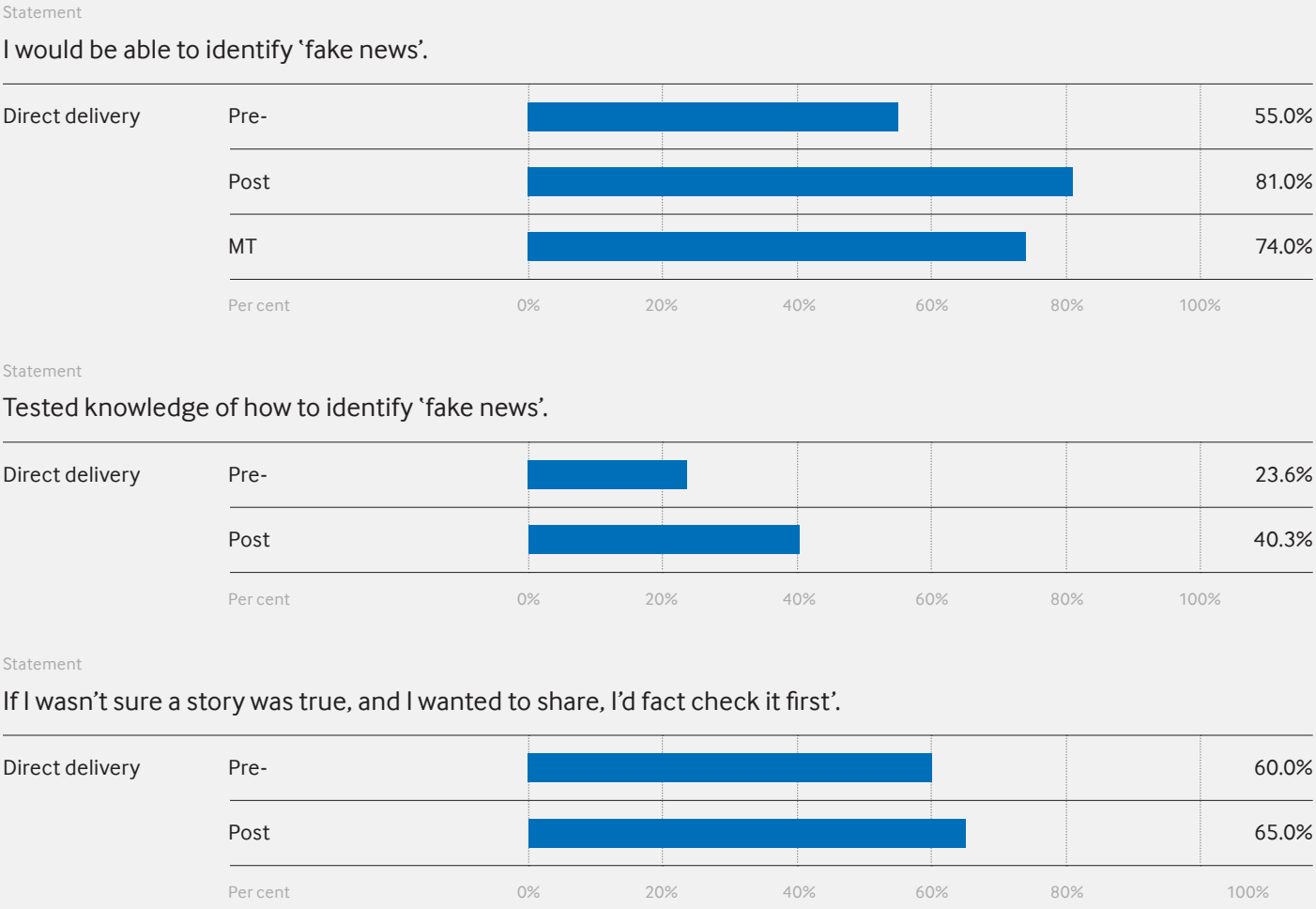
> “Participants in the school workshops reported an increased level of knowledge and confidence after the workshops”

Critical Consumption of Information and Fake News

The biggest module of the Be Internet Citizens curriculum is centred on educating teenagers about the critical consumption of information and fake news. This was done through a series of activities designed to examine fact checking and responsible sharing of online information, to identify fake news and biased writing, and to understand the motivations of users posting certain content online. Discussions covered why people share things online, how and why it is essential to fact check content before sharing it, and the importance of consuming media from diverse sources, including ones you might disagree with or not normally engage with.

Participants in the school workshops reported an increased level of knowledge and confidence after the workshops for the six measures on these topics, and three and six months later. Particularly notable was that 81% of teenagers felt they could identify fake news, with 40% of them able to demonstrate this knowledge after the workshop, a significant increase of 25% from their baseline score (Figure 6.1). These evaluation results persisted three and six months after the participants had had the workshops. Similarly, 65% of teenagers said they would fact check a story before sharing it online (Figure 6.1), with 56% reporting they would fact check a story three and six months later. The participants emphasised that having these critical consumer skills was imperative for them, with one student from Kenton school reporting that ‘being able to identify fake news and knowing if it’s true or false is really useful’. A student from Cedars Academy described how these skills would be relevant to him in future: ‘I’ve got younger brothers and sisters. When they’re older, I’ll probably help set up their accounts for them so I can explain some of these definitions and terms to them.’

Figure 6.1 The percentage of students who could identify fake news, knew of fake news and would fact check stories before and after participating in Be Internet Citizens direct delivery school workshops



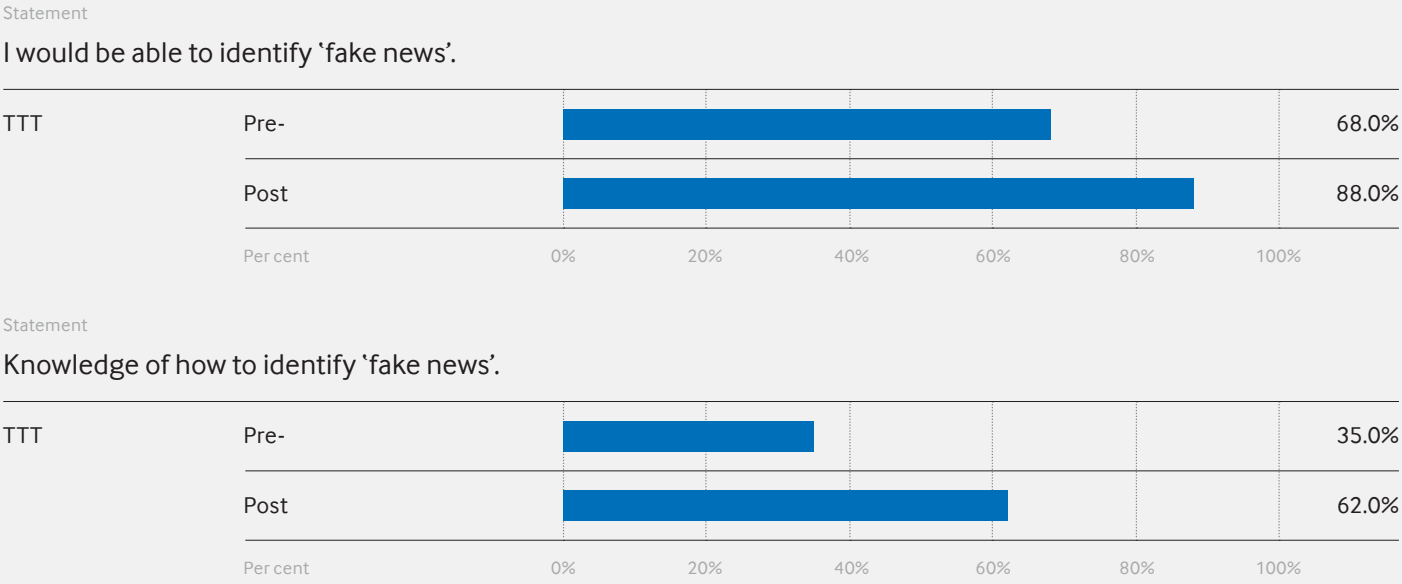
The teachers and youth workers who had been trained to deliver this programme had even more successful results. The surveys teenagers completed after this training showed that their confidence in their ability to critically consume information was statistically significant, with 88% of teenagers confident they could identify fake news. Furthermore, 62% demonstrated knowledge of how to identify fake news, a significant increase of 78% from their baseline score (Figure 6.2). Three-month follow-up surveys showed that their confidence in the majority of the measures of the programme was still statistically significant. The smaller gap between teenagers' confidence in identifying fake news and knowledge of it among those involved in the train-the-trainer model demonstrates that this is a more effective way to build teenagers' knowledge than the workshop model.

One reason for this could be that practitioners' pre-existing relationships with teenagers created smaller and more familiar learning environments, which were conducive to knowledge development for the majority of young people. On the other hand, the school workshops delivered by external facilitators created more dynamic spaces with a different style of learning that not all participants benefited from. One student from a school workshop at Warlingham school observed that 'not everyone got a chance to speak because there were so many people. And a lot of people said they would work better in groups with people they're more comfortable with.' Consistent with this observation, we found that teenagers who were given the training by teachers and youth workers reported it had a greater impact on their self-perception of skills and knowledge gain than those attending school workshops: 86% and 92% of teenagers taught by teachers felt they gained new skills and knowledge respectively, and 85% and 81% of teenagers taught by youth workers felt they gained new skills and knowledge, compared with only 68% and 75% of school workshop participants, respectively.

In interviews, practitioners told us that the curriculum allowed them to craft a safe space, on their own terms, with the young people they worked with, in order to discuss critical issues that are usually not covered comprehensively in schools or youth centres. This allowed practitioners the freedom to alter the way the curriculum was taught in line with the needs of their group, in turn effecting greater change than school workshops. One of the teachers noted that the lessons 'gave students the safe environment and the space to speak their mind, which they might not always get. Students enjoyed giving me their opinions and views. Students who are normally quiet got really involved.'

Finally, it is important to note the difference in the higher confidence level scores of the participants in feeling they could identify fake news, against their lower knowledge scores, for both models. Additionally, there were notable drops in the knowledge scores three months later for both models. This again indicates that education on these themes should be conducted over a longer time period, and delivered by teachers and youth workers, to allow teenagers to digest, practise and retain these crucial critical thinking skills.

Figure 6.2 The percentage of teenagers who could identify fake news and had knowledge of fake news before and after being taught the Be Internet Citizens curriculum by trained teachers or youth workers



Hate Speech and Free Speech

A key module of the curriculum focuses on hate speech and free speech. The learning outcomes are centred on teaching teenagers the differences between hate and free speech, and suggesting a variety of effective responses to hate speech. The activities garnered discussions on the UK definition of hate speech, the differences between offensive free speech and hate speech, and how to respond to online hate.

After the school workshops participants demonstrated statistically significant results for two of the relevant four measures, with notable positive change in the other two: 82% of teenagers felt they knew how and why to 'flag' or report social media content (Figure 6.3), with 67% of teenagers maintaining this confidence six months after the workshops. One student from Warlingham school emphasised the value of this module to them:

> If someone sent me a hate comment I would know how to respond to it, whereas before I would have probably sent them something hateful back, instead of finding the right way to deal with the situation. My response is more positive now.

While the baselines for these results were high, these significant increases in confidence in knowing how and why to flag or report hateful social media content after the training suggest that the participants gained applicable skills in countering hateful content: 68% of teenagers felt they gained new skills, with the focus groups indicating that the workshops helped participants to articulate key concepts that they may have come across before, but whose genesis and impact they could not previously identify or understand. One student from The Grange reiterated this sentiment, observing: 'If I see hate speech now I'll know what it is, but I didn't know before.'

However, while 80% of teenagers felt they knew the differences between hate and free speech, only 23% of teenagers knew the correct definition of hate speech after a school workshop, a 1% increase from their baseline score (Figure 6.4). As with teaching young people how to be critical when consuming information, these results demonstrate that those teaching young people about challenging topics, such as how to deal with online hate, require a long period of time in order to impart this knowledge effectively. Participants recognised they need this information and related skills: one student from Cedars Academy reflected: 'We spend so much time online, so we need to know how to protect ourselves and other people.'

Two of the four measures under the trained teachers and youth workers model were statistically significant and two showed notable positive change: 89% of teenagers felt they understood the difference between hate and free speech, and 52% knew the definition of hate speech, a 27% significant increase from their baseline score. Notably, three months after being taught the curriculum, 81% of teenagers retained knowledge of the hate speech definition: a 24% significant increase from their pre survey results (Figure 6.5). Here, as with the fake news measures, the confidence and knowledge scores were more aligned under the trained teachers and youth workers model than the school workshops. This again demonstrates the efficacy of equipping teachers and youth workers to give effective lessons on complex issues.

Confidence Online

Throughout the curriculum, the learning outcomes and objectives are geared towards giving teenagers the confidence to express themselves positively and to promote tolerance and respect for the opinions and worldviews of others online. The activities and creative exercise touch on how individuals can use their voice for good online, to encourage teenagers to contribute proactively to creating a safer and more positive online space.

The confidence of participants in school workshops increased significantly for one measure and positively for another after the workshops: 54% of teenagers felt confident expressing their views online (Figure 6.6), with 51% of participants maintaining this confidence three months later. More than two-thirds (72%) of teenagers were happy to listen to people expressing different worldviews from theirs (Figure 6.6). It is important to note that the baseline scores of understanding for both measures were high going into the workshops, resulting in smaller increases as a result of the training. Nonetheless participants acknowledged the value of the training: a student from Cedars Academy told

Figure 6.3 The percentage of students who knew how and why to flag or report social media content before and after school workshop direct delivery

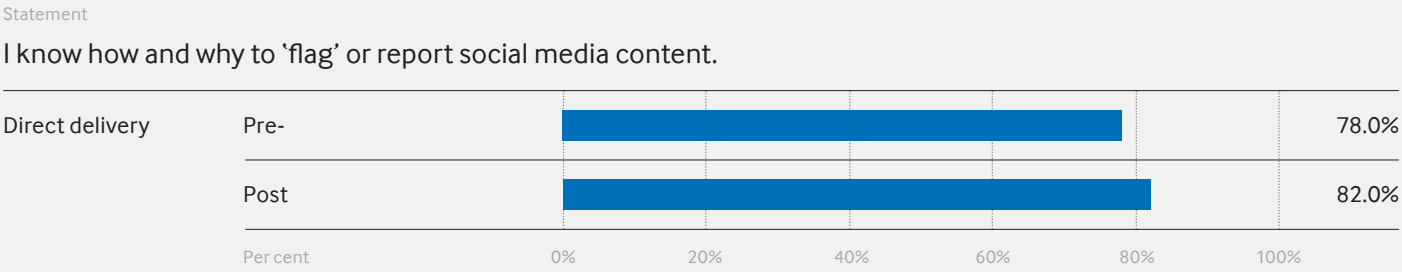


Figure 6.4 The percentage of students who could distinguish between hate speech and free speech, and knew what hate speech is before and after school workshop direct delivery

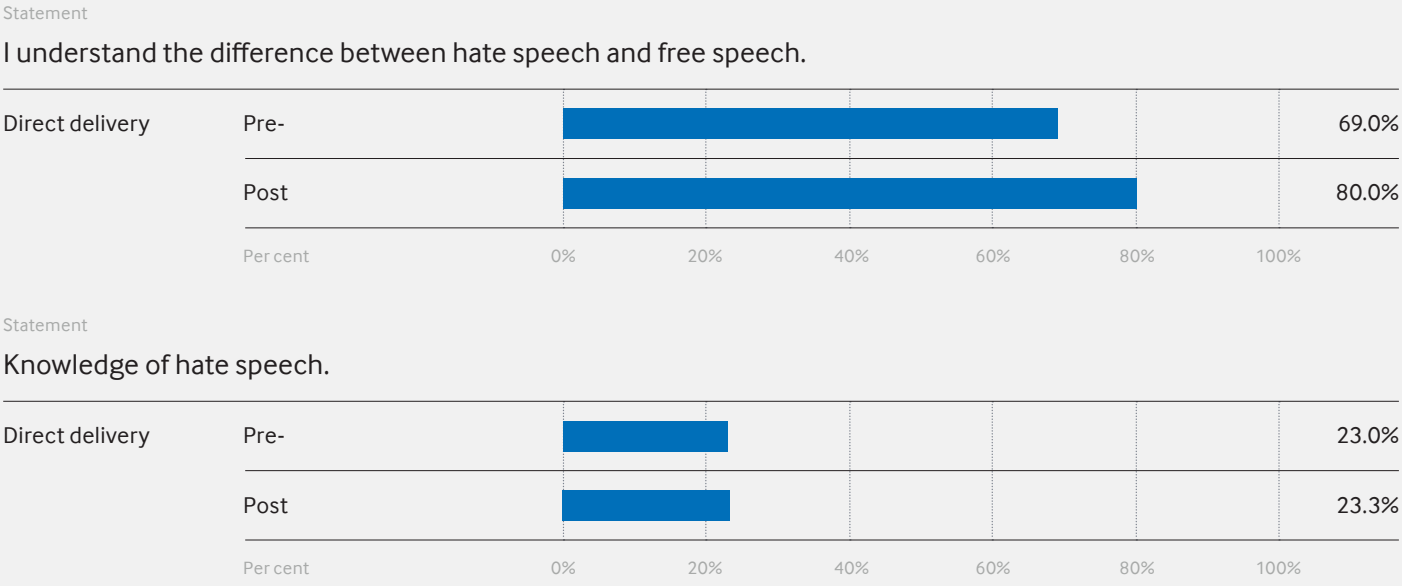
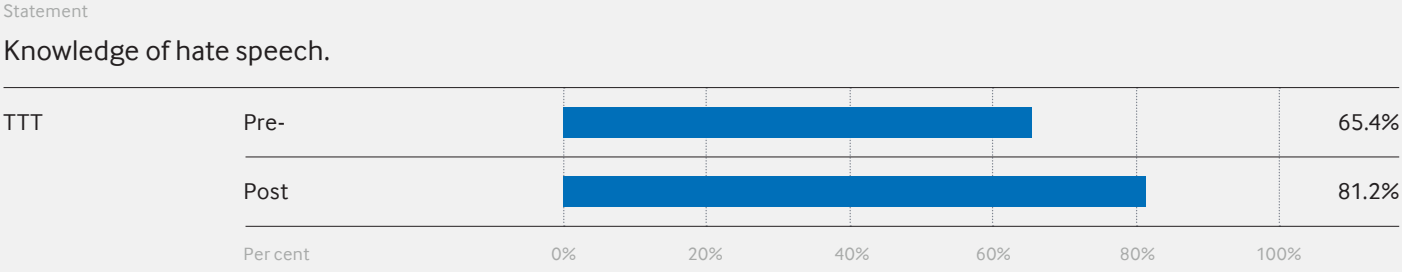


Figure 6.5 The percentage of teenagers who knew what hate speech is before participating in the Be Internet Citizens curriculum by trained teachers or youth workers, and in a mid-term (MT) follow-up survey



us that 'the workshops taught us the importance of listening to other people's opinions, and how to look out for their opinions', and a student from The Grange commented, 'The workshop made people more confident and allowed them to be happier online and have a more positive view of the internet.'

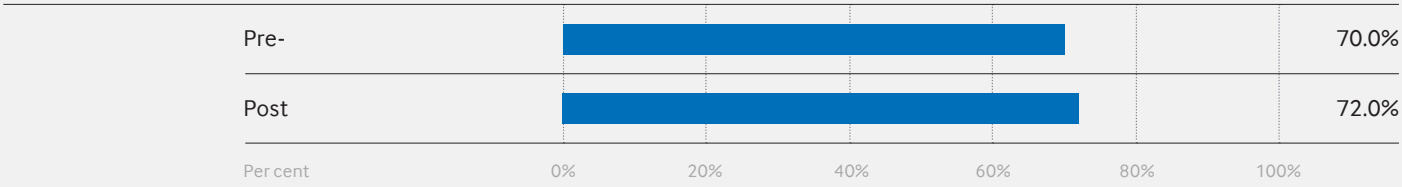
Under the trained teachers and youth workers model, both measures produced statistically significant results, which continued three months after teenagers were taught the curriculum: 65% of teenagers felt confident expressing themselves online just after being taught, with 55% of participants maintaining this confidence after three months. A trained youth worker commented, 'The sessions really inspired the young people to think for themselves and do their own research on these topics.'

Nearly three-quarters (73%) of teenagers were happy to listen to worldviews different from theirs after being taught the curriculum, and this figure increased to 91% of participants three months later (Figure 6.7). This demonstrates that the messages contained within these activities resonated with these teenagers in the long term, as their tolerance increased over time. However, as with the school workshop results, the baseline scores for these measures were high and the confidence increases were low. This similarity in the results for both delivery models suggests that it would be beneficial in future to expand the curriculum to focus more on tangible examples of varied worldviews and how to form and share viewpoints respectfully in order to bring larger positive attitudinal change.

Figure 6.6 **The percentage of students who were happy to listen to people with views different from theirs and confident to express their views online before and after school workshop direct delivery**

Statement

I am always happy to listen to people expressing different worldviews to my own.



Statement

I feel confident expressing my views online.

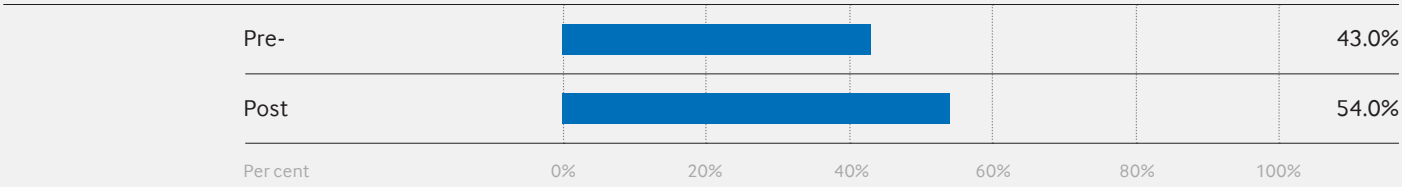
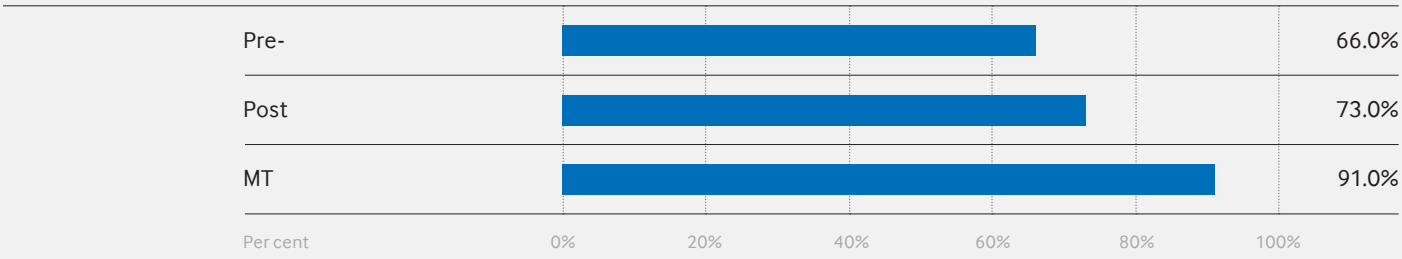


Figure 6.7 **The percentage of teenagers who were happy to listen to people express different worldviews online and confident expressing their views online before and after being taught the Be Internet Citizens curriculum by trained teachers or youth workers, and in a mid-term (MT) follow-up survey**

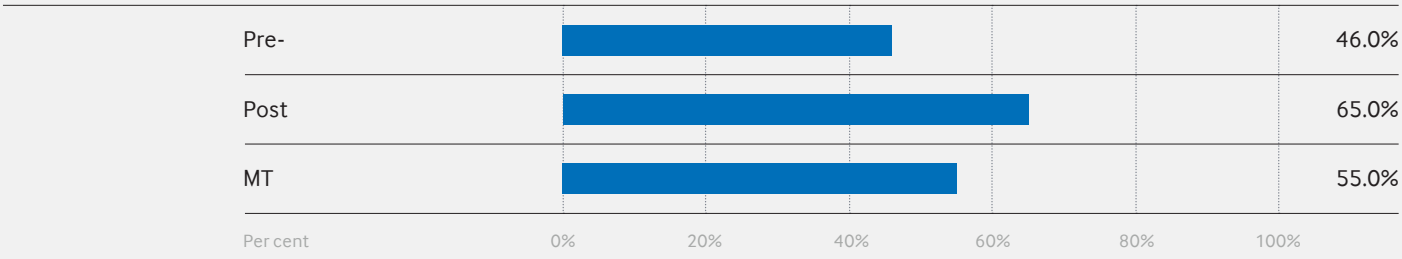
Statement

I am always happy to listen to people expressing different worldviews to my own.



Statement

I feel confident expressing my views online.

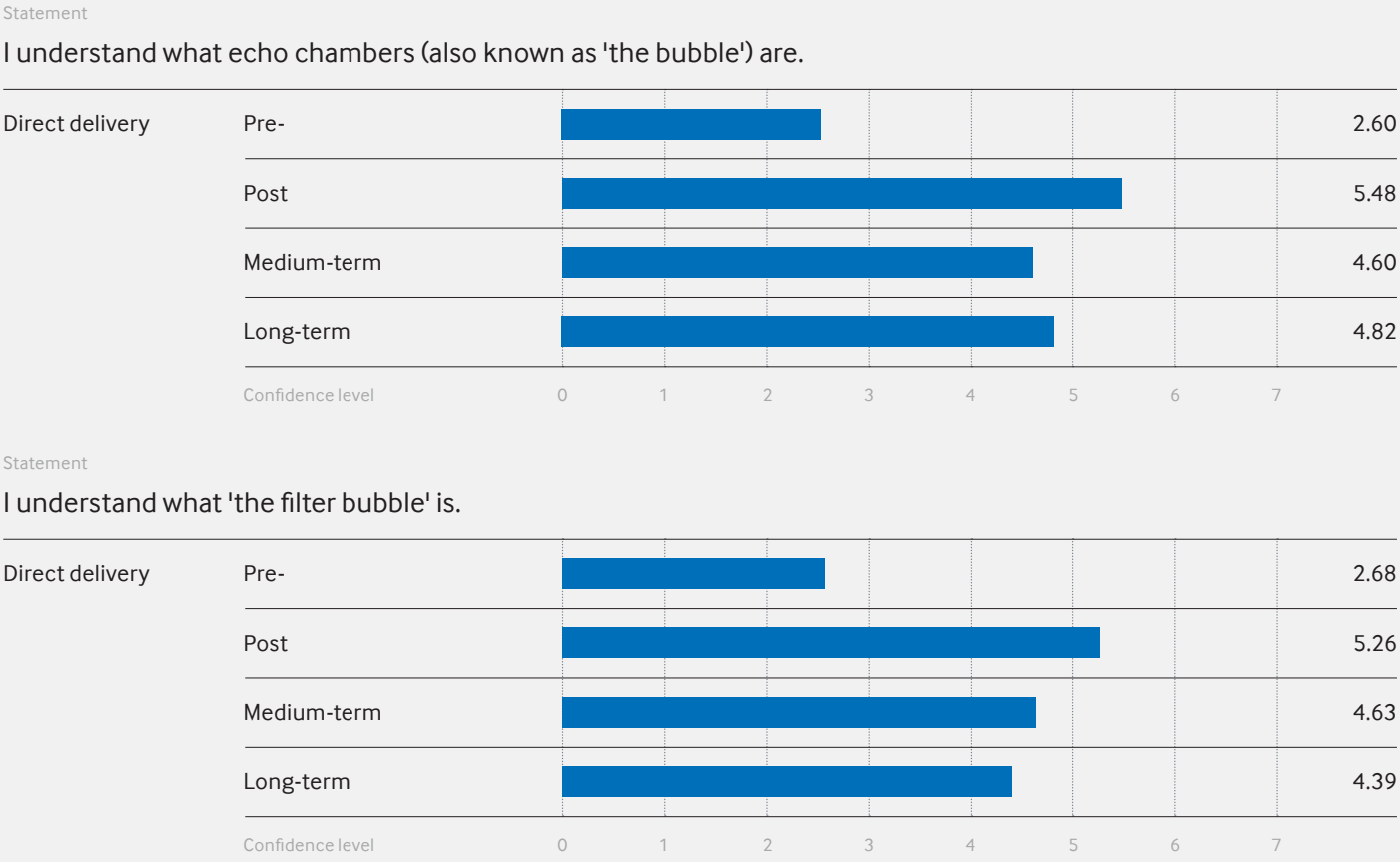


Potentially Negative Aspects of Online Behaviour

A key aim of the Be Internet Citizens curriculum is to inform teenagers about the power of the internet in shaping our attitudes towards other people. Accordingly, some activities focus on how online phenomena, such as echo chambers and filter bubbles, can negatively influence the worldviews that individuals hold and are exposed to online. Teenagers were encouraged to be aware of these phenomena online, to evaluate their potentially negative impact on individuals and wider society, to think about 'us and them' arguments and scapegoating as rhetorical devices used to encourage social polarisation and drive hateful arguments and narratives, and to consider the problems caused in society and politics by this type of thinking. There was a greater change in participants' ability to understand what echo chambers and filter bubbles are after taking part in both delivery models than for any other area covered by the programme. After the school workshops participants' knowledge of all measures increased, and they had retained this confidence when surveyed three and six months later. The largest change in confidence related to echo chambers and filter bubbles, with increases of 122% and 116% respectively, which shows how few teenagers were aware of these forms of online phenomena beforehand. When surveyed six months later, participants had retained their confidence, demonstrating the success of the workshops and the ability of external facilitators to empower students to understand how online communications shape and influence the information they consume (Figure 6.8).

Results from the process questions and qualitative data demonstrated the need to educate teenagers about the negative aspects of online behaviour. These evaluations sought to understand the experiences of the participants during Be Internet Citizens. Two-thirds (64%) of participants in the school workshops found the content to be relevant or highly relevant to their lives, imparting valuable lessons they felt they would pursue. One student from The Grange noted that 'it was enjoyable to learn what negative behaviour looks like, the internet can be a positive place and a negative place'; another from Warlingham school considered

Figure 6.8 The confidence levels of students in understanding what echo chambers and filter bubbles are before and after school workshop direct delivery, and in mid-term (MT) and long-term (LT) follow-up surveys



that the content was 'very, very relevant: it taught us life lessons and safety, and to be careful what you do'.

As with the school workshops, the understanding of all five measures of participants who took part in the trained teachers and youth workers model increased significantly, and they retained their understanding of each of the five measures three months later. Their confidence in understanding echo chambers and filter bubbles increased by 119% and 97% respectively after being taught the curriculum, with these increases continuing at 127% and 95% three months later (Figure 6.9).

These results for both models highlight the success of teachers and youth workers and the content of the programme in informing teenagers how the internet influences opinion and worldviews. Teachers and youth workers achieved consistently significant results among teenagers surveyed three months after training, which suggests that they are well placed to effect long-term change in teenagers' views on these important issues. Practitioners contended that it was imperative to include this type of education in schools as 'a lot of schools focus on very "surface" type lessons and certainly don't look at things like filter bubbles and echo chambers'.

The quality of delivery by teachers and youth workers is seen when analysing the impact results of their work on scapegoating. After participating in school workshops, 68% of teenagers felt confident they knew what scapegoating was, yet only 23% demonstrated this knowledge when asked to pick the correct multiple choice answer. Through the trained teachers and youth workers model, 72% of teenagers had this confidence, and 50% demonstrated this knowledge (Figure 6.10). While the difference between knowledge and confidence is prominent in both models, the gap is markedly smaller in teenagers taught by teachers and youth workers. This again highlights the need to invest in teachers and youth workers to deliver digital citizenship education to teenagers independently.

Wellbeing Online

The curriculum is undergirded by an emphasis on the importance of collective online community wellbeing, and includes activities on the practical ways in which teenagers can help others as positive digital bystanders. One example was the responses participants gave to hate activity. A series of techniques was suggested that teenagers could employ if they came across hate online, encouraging a sense of responsibility for their peers and others in their online networks.

The results of this attitudinal development were lower here than for other impact measures, for both models. After the school workshops, the number of participants who felt responsible for the wellbeing of people connected to them through social media increased: 41% of participants agreed with the statement 'I feel responsible for the wellbeing of people connected to me through social media', an increase of 2% from those who agreed with it at the outset. While this confidence persisted three and six months later, the increase in confidence from the original baseline score was 3% (Figure 6.11).

Similarly, after delivery by the trained teachers and youth workers, 54% of teenagers felt responsible for the wellbeing of others online, an increase of 1% on the baseline figure. Although this figure increased by 11% after three months, the changes were still small (Figure 6.12). The curriculum included tools and techniques that teenagers can use to challenge negative behaviour online, and to project a positive voice through social media. There was less emphasis on the rights and responsibilities of young people online, and how they can stand up for the rights of peers and others within their online networks. In future, expanding the curriculum to have a greater focus on digital rights and responsibilities could bring larger positive attitudinal and behavioural change on this incredibly important measure of digital citizenship. Participants emphasised the value of being educated on wellbeing. A student from Cedars Academy noted, 'We spend so much time online, so we need to know how to protect ourselves and other people.'

Figure 6.9 The confidence levels of teenagers in understanding what echo chambers and filter bubbles are before and after being taught the Be Internet Citizens curriculum by trained teachers or youth workers, and in a mid-term (MT) follow-up survey

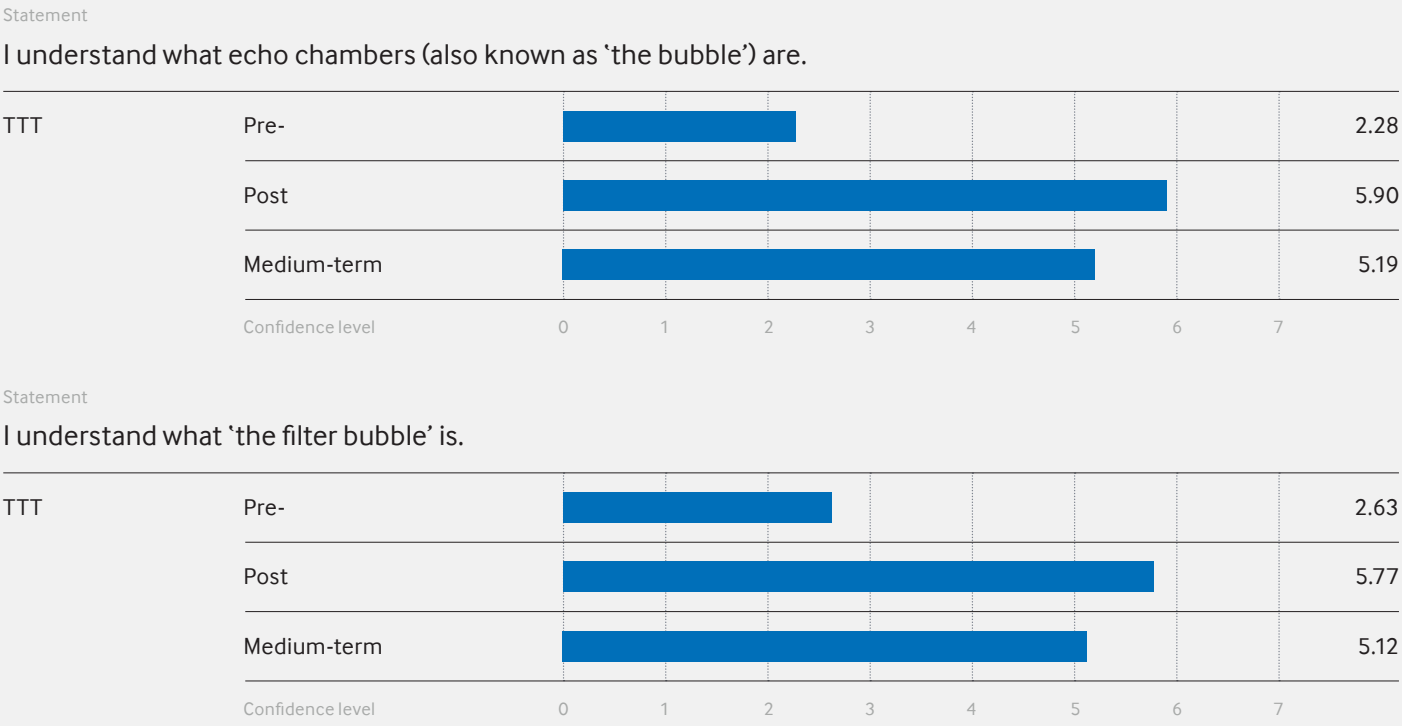


Figure 6.10 The percentage of teenagers who understood and knew what scapegoating is before and after participating in school workshops (directly delivery) and curriculum delivery by trained teachers and youth workers (TTT)

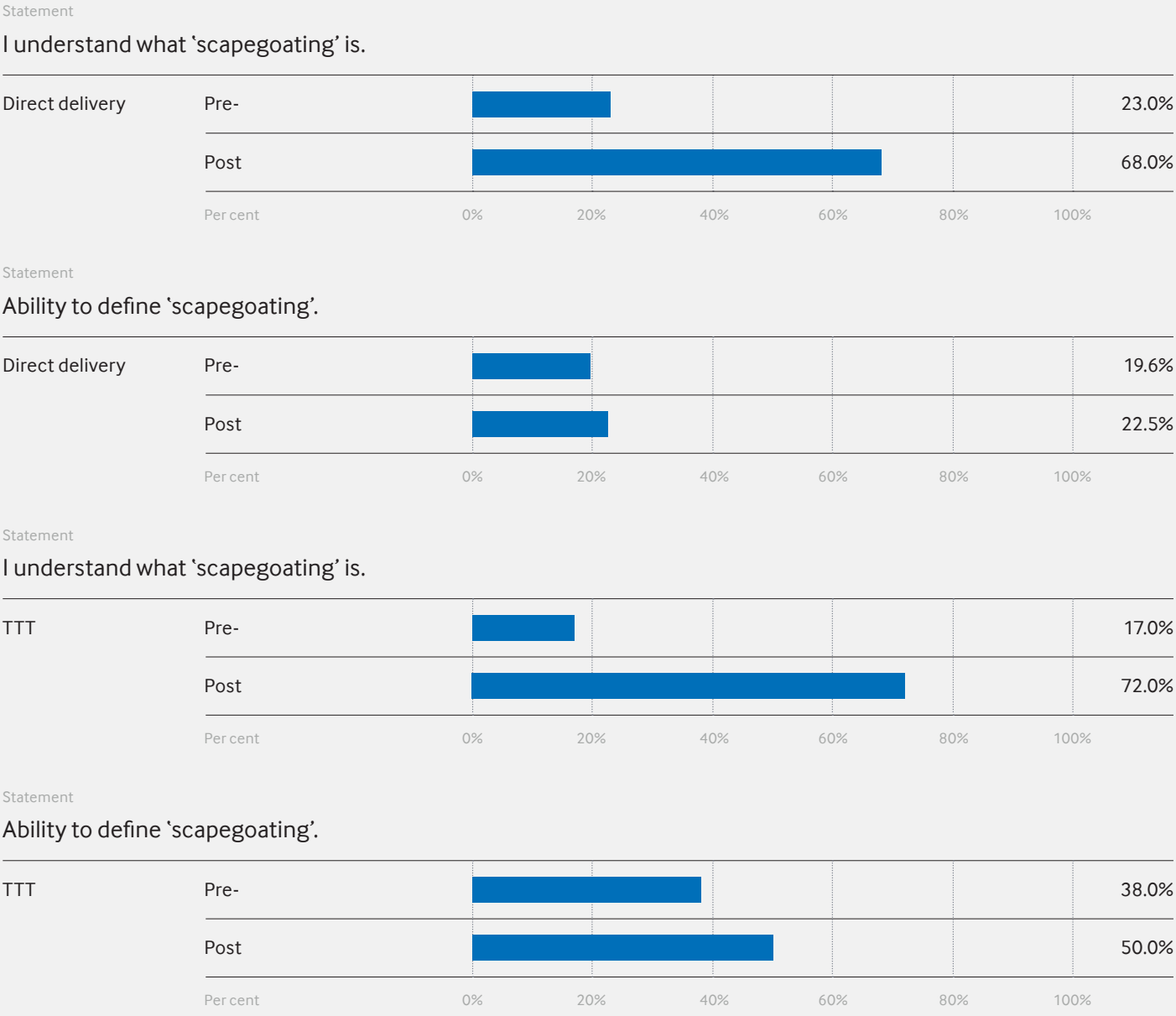


Figure 6.11 The percentage of teenagers who felt responsible for the wellbeing of people connected to them through social media before and after school workshop direct delivery

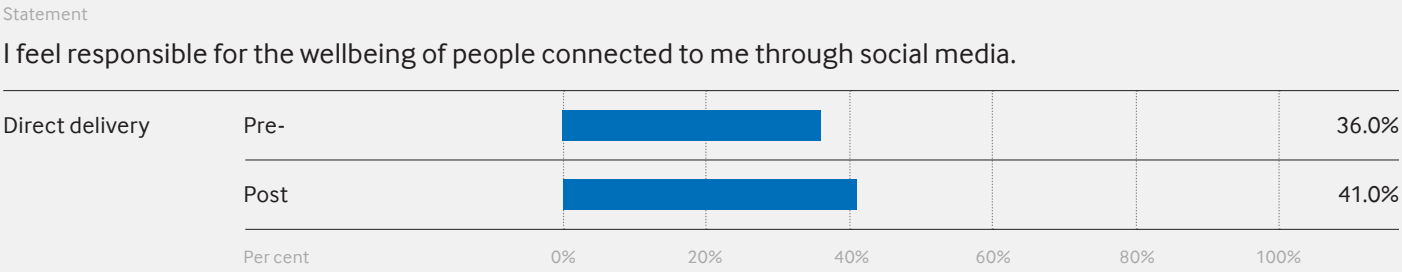
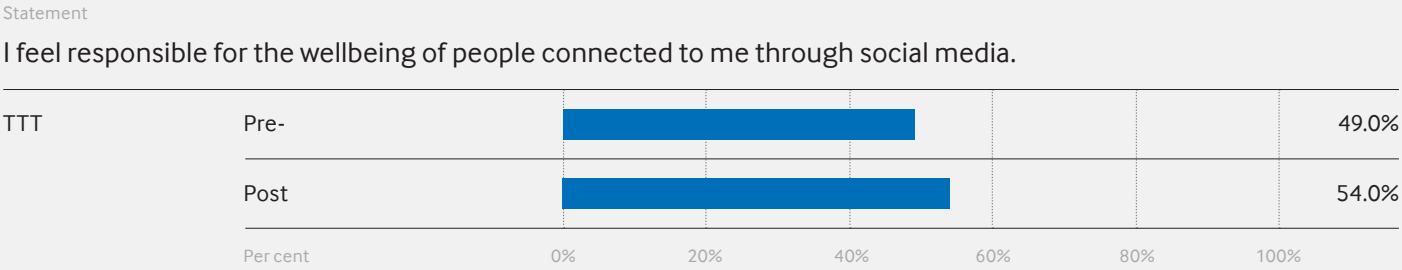


Figure 6.12 The percentage of teenagers who felt responsible for the wellbeing of people connected to them through social media before and after being taught the Be Internet Citizens curriculum by trained teachers or youth workers



Teacher and Youth Worker Surveys

Given the challenges faced in ensuring young people are safe, responsible users of the internet, it is important that frontline practitioners are trained to teach young people the requisite digital citizenship knowledge, skills, behaviour and attitudes. These practitioners need to demonstrate an understanding of key online harms that teenagers encounter, and have the confidence to build their resilience to these harms effectively.

In order to support practitioners, we invited teachers and youth workers to attend Be Internet Citizens training, according to their geographic location and their role in teaching young people. For example, when training was held in East London, we invited teachers of PSHE, citizenship and computing, safeguarding officers and assistant head teachers in charge of CPD within East London schools to attend.

We gave teachers and youth workers trained by ISD as part of the train-the-trainer model surveys before and after their training, which had:

- questions about their experience with digital citizenship education and resources
- confidence questions on a Likert scale measuring their confidence in and understanding of key elements of the curriculum
- open response knowledge questions, measuring their knowledge of key curriculum elements.

The post survey included the same confidence and knowledge questions, and process questions about participants' experience with the training. The matched pre and post surveys provided a sample size of 34 teachers and 28 youth workers. Teachers and youth workers acknowledged that they had gained new digital citizenship knowledge and skills through attending the training, and were full of praise for the way the sessions were delivered. The key findings from the pre and post surveys are presented below.

The Importance of Teaching Digital Citizenship

In the post surveys after the training we asked respondents how important they think it is to teach digital citizenship to teenagers, and 98% of teachers and 100% of youth workers said it was either very important or important (Figure 6.13). One teacher who attended the Cardiff teacher training noted, 'The sessions offer valuable knowledge and skills that students won't have been taught before. It will encourage them to think independently and be more aware when online.'

In line with these views, when asked whether they would like schools to receive more training in how to teach digital citizenship to teenagers: 97% of teachers said they would certainly or probably like more training in schools, and 99% of youth workers said they think learning about digital citizenship is valuable for practitioners (Figure 6.14).

Provision of Digital Citizenship in Schools and Youth Centres

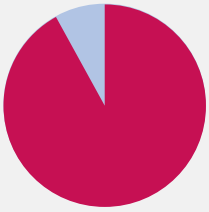
While the pre and post surveys demonstrated that teachers and youth workers believe digital citizenship learning to be highly important, the surveys showed that they do not feel that current provision of the subject in schools is adequate. Only 17% of teachers believed that digital citizenship is taught effectively in their schools, and only 9% of youth workers felt that it is taught well in youth centres, while 25% felt it is taught badly or very badly (Figure 6.15).

> "Only 17% of teachers believed that digital citizenship is taught effectively in their schools, and only 9% of youth workers felt that it is taught well in youth centres"

Figure 6.13

Do you think it is important to teach digital citizenship to young people?

Teachers

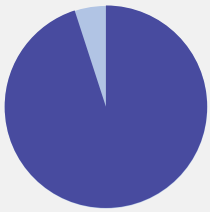


Very important	**92%**
Important	5%
Slightly important	3%
Not important	0%
Not at all important	0%
I don't know	0%

Figure 6.13

Do you think it is important to teach digital citizenship to young people?

Youth workers

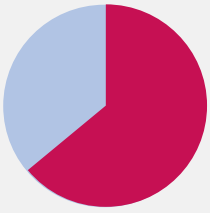


Very important	**95%**
Important	5%
Slightly important	0%
Not important	0%
Not at all important	0%
I don't know	0%

Figure 6.14

Would you like schools to receive more training in how to teach digital citizenship?

Teachers

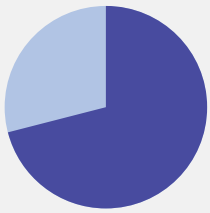


Yes, certainly	**64%**
Yes, probably	33%
No, probably not	0%
No, certainly not	0%
I don't know	3%

Figure 6.14

Is learning about digital citizenship valuable for youth and charity workers?

Youth workers

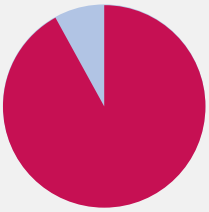


Yes, certainly	**71%**
Yes	28%
No	0%
No, certainly not	0%
I don't know	1%

Figure 6.15

Do you think digital citizenship is effectively taught in your school?

Teachers

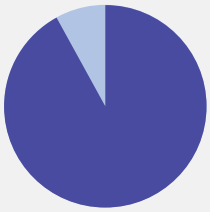


Taught neither well nor badly	**33%**
Very well taught	0%
Well taught	17%
Badly taught	25%
Very badly taught	0%
I don't know	25%

Figure 6.15

In your experience, how well taught do you think digital citizenship is?

Youth workers



Taught neither well nor badly	**49%**
Very well taught	0%
Well taught	9%
Badly taught	15%
Very badly taught	10%
I don't know	17%

> After the training 94% of teachers and 96% of youth workers could correctly define the concept of hate speech

Both groups of practitioners considered their knowledge of the subject to be limited, with only 13% of teachers and 3% of youth workers saying they know a great deal or a lot about digital citizenship (Figure 6.16).

Finally, although many of the participants taught PSHE, computing or citizenship, 58% of them said they have never taught digital citizenship before, and 42% of youth workers said that they rarely or never work with teenagers on digital citizenship issues, while only 15% frequently do so (Figure 6.17). One teacher who attended a training session in West London said, 'We absolutely need to teach more digital citizenship, I just see it as a no brainer. I think schools only focus on things which impact on them such as cyber bullying without understanding the wider context.'

Confidence and Knowledge measures

As with the teenagers who were taught the Be Internet Citizens curriculum, teachers and youth workers were surveyed on their knowledge of certain key concepts and confidence levels across several measures in the pre and post surveys, and the results from each were compared to evaluate the impact of the training.

There were not statistically significant changes in the practitioners' knowledge before and after training in the curriculum. After the training 94% of teachers and 96% of youth workers could correctly define the concept of hate speech and 97% of teachers and 100% of teachers correctly defined the concept of scapegoating.

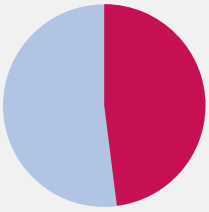
The surveys after training demonstrated that teachers' knowledge of all 11 confidence measures had significantly improved (Figure 6.18), and youth workers' knowledge of 10 confidence measures had significantly improved (Figure 6.19), the exception being 'I understand the concept of free speech'. Youth workers' understanding of this measure had increased but not significantly. After the training sessions there were notable increases in teachers' confidence in understanding the concepts of fake news (by 37%), echo chambers (by 119%) and filter bubbles (by 145%), and notable increases in youth workers' confidence in understanding of echo chambers (by 107%) and filter bubbles (by 124%).

One youth worker who attended a training session in Cardiff said the training had helped participants 'gain lots of new knowledge', while a teacher who attended the Manchester teacher training noted that participants 'now feel confident to now get the pastoral team trained up to deliver to most pupils in the school'.

Figure 6.16

How much do you know about digital citizenship?

Teachers



A moderate amount	**48%**
A great deal	4%
A lot	9%
A little	22%
None at all	17%

Figure 6.16

How much do you know about digital citizenship?

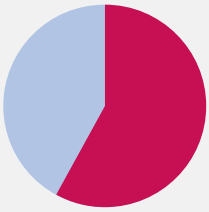
Youth workers

A little	**52%**
A great deal	2%
A lot	1%
A moderate amount	28%
None at all	17%

Figure 6.17

Have you taught digital citizenship to young people before?

Teachers



No	**58%**
Yes	42%

Figure 6.17

Do you currently work with young people on digital citizenship issues?

Youth workers

Yes, infrequently	**43%**
Yes, frequently	15%
No, rarely	33%
No, never	9%

Figure 6.18 **The confidence levels of teachers in 11 measures relating to digital citizenship before and after training (Asterisks indicate level of statistical significance: *p<.05, **p<.01, ***p<.001)**

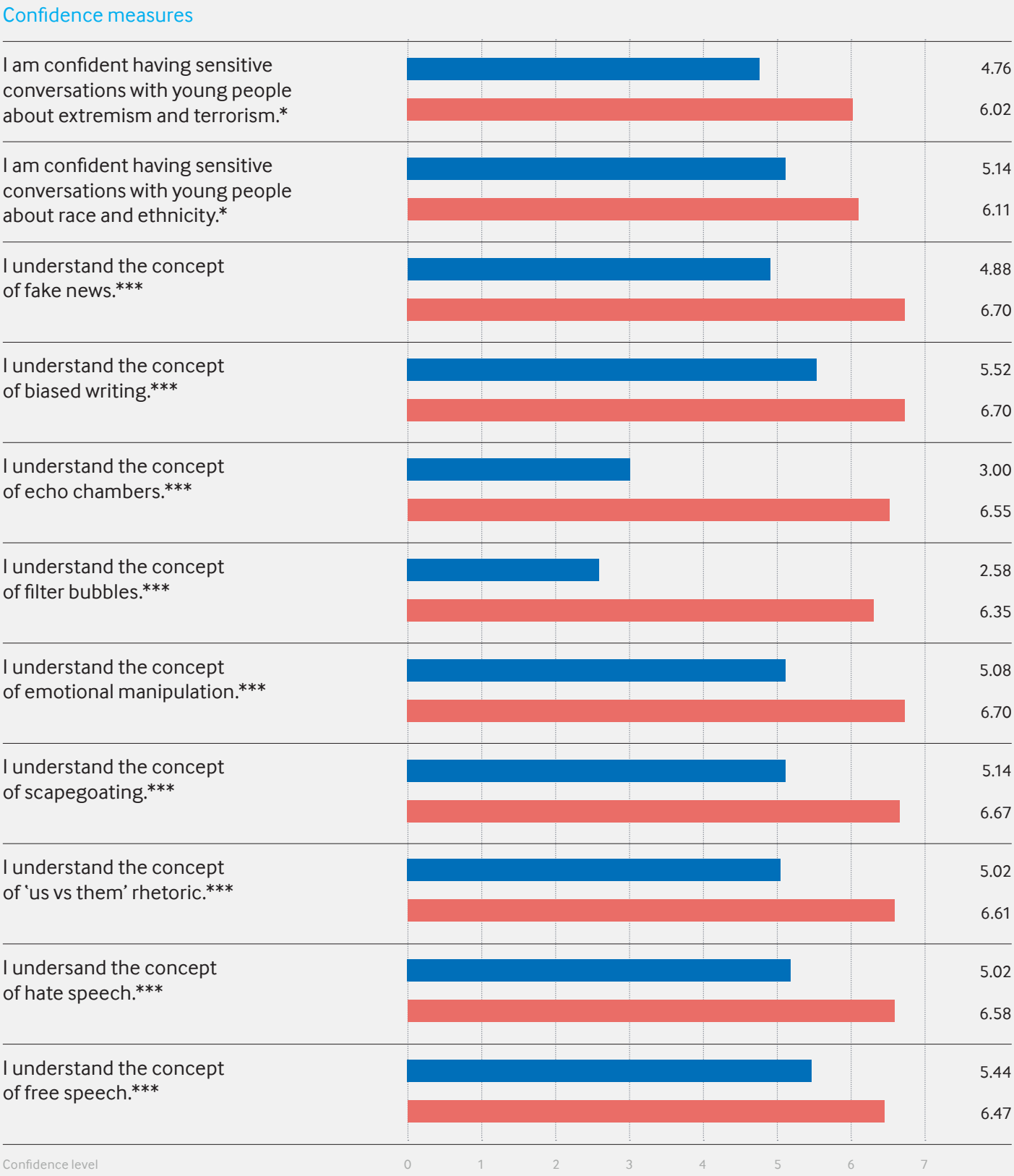


Figure 6.19 The confidence levels of youth workers in 11 measures relating to digital citizenship before and after training (Asterisks indicate level of statistical significance: *p<.05, **p<.01, ***p<.001)

Conclusions and recommendations

The evaluation of Be Internet Legends and Be Internet Citizens demonstrates how digital citizenship can be delivered effectively in primary and secondary school settings, and signals key areas for improvement for future iterations of the programmes. The assessment of what digital citizenship actually consists of, and thus what standard the delivery was being measured against, was encapsulated in the impact indicators used in the surveys. These cover a number of key skills, attitudes and behaviours deemed to be integral to what good digital citizenship looks like, such as the ability to consume online information critically, and take responsibility for the wellbeing of peers online. The key conclusions from the evaluation findings are summarised below.

In future, the evaluation methodology could be adapted to measure digital citizenship in a more holistic way, with a comprehensive and graded 'digital citizenship index' forming the basis of this concept. This index would include a list of attributes required to be a good digital citizen, and provide young people with a score that signals what level they are operating at on the index, based on the knowledge, skills, attitudes and behaviour they demonstrate after participating in the programmes. It would also include a weighted scoring scale, perhaps with attitudinal and behavioural change worth more than knowledge gain, given that this change is harder to effect and a more valuable objective for this type of sustainable, behaviour-influencing education.

In line with this proposed adaptation to future evaluation methodology, we trialled a digital citizenship index approach with the current evaluation results. In order to do this, we normalised, averaged and scaled to 100 the mean responses to all questions on the pre and post surveys, to create an overall 'digital citizenship score', which covers the knowledge, skills, attitudes and behaviour that we were measuring young people against in this evaluation. These overarching scores are presented in Table 7.1.

These indices cover responses to confidence and knowledge questions, so measure young people's overall confidence in and understanding of the key concepts of each of these programmes. As observed in the detailed evaluations described in previous chapters, participants' understanding of all the key concepts of the programmes and their confidence in addressing the issues involved online increased in all interventions. This has led to increases in these indices in all three intervention models.

Conclusions

Both programmes improved the fundamental digital citizenship capacities of the young people who participated in them, especially increasing their knowledge and confidence on key digital issues. The greatest positive effects of both programmes were observed in the knowledge and confidence gains by young people. For example, Be Internet Legends had a consistent, statistically significant, positive impact on participants' confidence in knowing when to speak to adults about things that confused or scared them online. Similarly, all three intervention models left over half of participants able to describe the elements of a strong password correctly, a key knowledge concept in ensuring young people's security and privacy online. The largest increases in confidence among participants was for those participating in both Be Internet Citizens models and studying echo chambers and filter bubbles, which are integral knowledge concepts when identifying negative aspects of online behaviour: teenagers'

Table 7.1 The overall digital citizenship scores for the different training models, pre and post survey

	Be Internet Legends	Be Internet Citizens School workshops	Be Internet Citizens Train-the-Trainer
Pre-survey	50	55	60
Post-survey	70	66	74

confidence ability to identify these phenomena increased by up to 122%. These teenagers were optimistic they had gained new skills and knowledge.

The lessons model was the most effective for pupils participating in Be Internet Legends, showing that long sessions with deep engagement lead to knowledge and skills gains in children. The surveys and the interviews with teachers showed that the lessons model had a greater impact on children than the assemblies, which were less conducive to effective teaching and learning. The fact that lessons allow for more engagement and in-depth interaction with a young age group, which requires greater attention, is particularly important when delivering a full and pertinent curriculum in primary schools. Following the lessons, participants reported greater enjoyment and a greater likelihood to use the internet differently, so the programme would have a greater effect on more children by focusing on a model that combines assemblies with lessons.

The train-the-trainer model was the most effective for teenagers participating in Be Internet Citizens; they gained and retained stronger knowledge and skills three months later after being taught by teachers and youth workers. The programme had particularly successful outcomes for teenagers involved in the teacher and youth workers model of delivery, suggesting that digital citizenship education is most effective when delivered by practitioners over long sessions embedded in school and youth centre timetables. Notably, teenagers retained the significant knowledge of fake news, hate speech and scapegoating that they gained after being taught the curriculum three months after the training. This demonstrates the success of frontline practitioners at imparting sustainable knowledge of key digital citizenship concepts to young people, and signals a long-term need to invest in training them to teach this type of education to teenagers. Accordingly, Be Internet Citizens should scale up its teacher and youth worker training models, as a more cost-effective approach than the school workshop model, to achieve impact at scale.

In future, both programmes should amend their content to focus more on topics that are integral to the digital lives of young people through this evaluation, in order to provide effective and relevant digital citizenship education in primary and secondary education settings. The qualitative data from Be Internet Legends revealed that most children use the internet primarily for online gaming. Consequently, teachers emphasised that the curriculum should be amended to give more prominence to gaming, in line with how children use the internet, in order to equip them with the skills to protect themselves online when accessing large gaming communities of strangers. Similarly, a key objective of Be Internet Citizens is to empower teenagers to create positive online spaces for themselves and their peers. However, attitudinal development in this area was lower than for other confidence measures: only 41% and 53% of teenagers felt responsible for the wellbeing of people connected to them through social media after the school workshops and delivery by trained teachers and youth workers respectively. Therefore, the curriculum should focus more on collective online community wellbeing, in order to develop this hugely important aspect of digital citizenship in teenagers.

Recommendations

Those with the influence to support young people in becoming empowered digital citizens have a responsibility to do so. Tech companies, governments, educators, parents and civil society actors need to work together in order to keep pace with changes to the digital world and update the education system accordingly. While there is broader recognition of the need for building digital literacy skills and knowledge, as evidenced in the Government's 2019 Online Harms White Paper, there is a need to go beyond digital literacy and focus on the norms and behaviour that comprise digital citizenship.[22] The following recommendations focus on how further collaboration between stakeholders can empower young people to realise their potential and improve their online communities as good digital citizens.

Define and standardise digital citizenship. There is broad recognition of the need to build digital literacy skills and knowledge, as demonstrated in the Government's 2019 Online Harms White Paper, while the Digital, Culture, Media and Sport Select Committee's report Disinformation and 'Fake News' (2019) recommends that digital literacy should be a 'fourth pillar of education, alongside reading, writing and maths'. This is a worthwhile idea, but it is important that digital

citizenship is recognised as a core component of digital literacy and is effectively taught in schools and youth centres. Therefore, the Government should produce a standardised UK definition of digital citizenship so that education practitioners clearly understand what it means, why it is an important part of young people's education, and the specific knowledge, skills, attitudes and behaviours it entails.

The Government's Online Harms White Paper (2019) suggests that supporting information will be produced for schools on how to teach internet safety – this would present an ideal opportunity for the Government to define digital literacy and citizenship and emphasise their importance. The white paper places a lot of emphasis on media literacy and proposes the creation of an online media literacy strategy; this is an important and positive step, but it should sit at the heart of a wider drive to improve digital citizenship learning, in line with similar proposals made by the Children's Commissioner. Along with media literacy, practitioners must be guided to teach the rights and responsibilities of young people online, the need for critical thinking in all online activity, and norms for online social cohesion.

Embed digital citizenship into the national curriculum and provide training for practitioners. The Government has promised to improve aspects of digital literacy, as evidenced by its draft statutory guidance for relationships education, relationships and sex education, and health education (2019), and recent proposals in the Online Harms White Paper (2019).[23] However, there is still a lack of robust, supportive guidance on how digital literacy should be taught and where it would fit in an already overcrowded curriculum. Currently schools are free to determine how they deliver this content, which risks there being ineffective teaching and inadequate learning, or an absence of provision entirely. More than half (58%) of the teachers trained on the Be Internet Citizens programme had never taught the subject before, despite 85% thinking it is an extremely important subject to teach (see Technical Appendix 3).

Rather than being spread piecemeal across the PSHE, citizenship and computing programmes of study, digital literacy and digital citizenship should be a mandatory component of one of these subjects. The Government should also encourage and support leaders of schools and youth centres to train staff to deliver effective digital citizenship learning, and promote effective initiatives that facilitate this. The Government's response to the relationships and sex education guidance consultation backs these ideas: it highlights that teachers have been vocal about requiring more training in this area and 'additional guidance on which resources are appropriate'. Our research supports this: 95% of teachers we trained wanted more training in digital citizenship (see Technical Appendix 3). Senior leadership teams in schools should allow adequate CPD (continued professional development) time for the relevant staff to develop expertise in this area.

Technology companies need to continue investing in digital citizenship education programmes. While the Government should ensure that the national curriculum is updated to include teaching digital citizenship, these companies also have a vitally important role to play in ensuring that young people's education in this area is delivered effectively. As the operators of vast social media platforms, they are uniquely placed to work with civil society organisations (CSOs) in order to keep pace with changes in technology and adapt digital citizenship learning accordingly.

For example, teaching on fake news should now cover the rise of 'deep fake' video content and manipulated images, which will exacerbate the challenges young people face in evaluating the quality of information. Technology companies should feed insights on new trends like this into the development of educational programmes that teach young people digital citizenship and resilience online. Moreover, the size of these firms means they are able to leverage their extensive resources to scale these programmes in order to reach significant proportions of young people in the UK.

Companies should also continue to build out digital tools to ensure that young people are more aware of and resilient to the range of harms they face. It is important that technology companies continue to invest in the charities that deliver these educational programmes, and that they do so through a formalised funding stream that ensures they are sustained at scale and improved upon year on year.

Support effective digital citizenship teaching in informal education contexts. Our research for Be Internet

Citizens shows that 88% of teenagers taught the curriculum in youth centres said they would behave differently online as a result (see Technical Appendix 2). This was a more significant behavioural change than achieved among teenagers learning the curriculum in schools (72%). This could point to youth workers being the most credible messengers to inspire young people to behave more positively online. Moreover, interviews conducted with youth workers confirmed that digital citizenship education in informal contexts is extremely valuable, not least because the nature of informal learning allows for in-depth discussions on key concepts such as fake news and filter bubbles, echo chambers and emotional manipulation. Governments, CSOs, tech companies and parents should encourage digital citizenship learning to take place in informal education contexts with resources specifically created for this style of learning.

> “Interviews conducted with youth workers confirmed that digital citizenship education in informal contexts is extremely valuable”

Promote digital citizenship learning at ages 11–13. Young people aged 11-13 have only recently started secondary school and are likely to be more impressionable to social media than older students, and often influenced by their older peers. Formal and informal delivery models must engage students at this age in order to build their critical thinking skills and resilience before they can begin to use social media according to tech company terms of services. As part of the government drive for greater industry co-ordination in producing effective initiatives, digital citizenship learning across all secondary school key stages must be ensured.

The Government’s guidance on relationships and sex education has made a promising start by outlining the broad internet safety topics that schools should cover at secondary school; now more detailed guidance should follow on the different skills, knowledge and behaviour that should be covered in key stages 3 and 4, starting with detailed instruction on how to use resources such as the comprehensive framework of the UK Council for Internet Safety (UKCIS) comprehensive framework, Education for a Connected World.[24]

Introduce education for parents and carers to ensure they are kept informed of the challenges their children face online. Parents and carers have a vital role in regulating the amount of time children spend online, and reinforcing the positive and cautious messages about the digital world that young people learn at school or at youth centres. In order to do the latter effectively, they must be informed about the range of challenges that young people could face online, and be able to point them in the direction of positive online content. Charities and public bodies such as Young Minds and UKCIS have produced guides for parents and carers on the different types of social media that children use and how to support safe and responsible behaviour online, but it is not clear how many people these materials reach, or whether this approach is proving effective.

Alongside the current web-based, digital guide approach, CSOs, technology companies, the Government and educational institutions should work collaboratively to improve the quality of education that parents and carers receive on social media and online harms. An example of cross-sector collaboration is the online safety partnership between the National Society for the Prevention of Cruelty to Children (NSPCC) and O2, which not only offers online support but also operates a helpline service and drop-in sessions to discuss online safety. These have engaged more than 11,000 parents in over 450 O2 stores. Adult education programmes like this should receive further investment, not only to inform parents and carers of the range of online harms and up-skill them in available digital tools that help them to understand and regulate their children’s online activity.

Technical appendices

Be Internet Legends

Methodology

We evaluated the Be Internet Legends curriculum in four schools in the UK, which represent samples of the schools that currently participate and/or have participated in the programme. In each of these four schools:

- we delivered pre and post surveys to all key stage 2 pupils (ages 7–11)
- a selection of participant students joined a qualitative focus group
- two teachers participated in semi-structured interviews about their experience with the curriculum.

Criteria

We set out selection criteria for schools to ensure the evaluation was representative of schools currently engaging with Be Internet Legends and as representative as possible of the general UK student population while maintaining comparability between schools. These were our selection criteria for schools:

- be in different areas (one in London, one in the Midlands, one in the North and one in Wales; Scotland was excluded as the education system varies from the rest of the UK, a variable that could have interfered with the evaluation)
- ideally have a minimum of 500 key stage 2 pupils (roughly 125 students per year)
- have uniform Outstanding or Good Ofsted ratings
- have high teacher engagement
- have no previous interaction with the Be Internet Legends programme.

Sampling Plan

The Be Internet Legends curriculum can be delivered in two formats: via a series of lessons or in a large assembly. This evaluation aimed to find out how effective these delivery models were, and the potential for increased impact if the programme was delivered to students in both formats. In order to capture these effects, we created three distinct intervention groups. A fourth group had no interaction with the curriculum and was used as a comparison group. This sampling plan is illustrated in Table A.1.

Surveying

We surveyed students (participants and control group) twice: before the intervention and immediately after it. The pre survey included:

- basic demographic questions (e.g. age, birth country, language spoken at home)
- confidence questions on a Likert scale, measuring students' confidence in and understanding of key curriculum elements
- open response knowledge questions, measuring students' knowledge of key curriculum elements.

Table A.1 The type of delivery of Be Internet Legends in the participating four schools

Curriculum	Year	School 1	School 2	School 3	School 4
Age 7–9 curriculum	Year 3	Combined	Lessons	Control	Assembly
	Year 4	Lessons	Combined	Assembly	Control
Age 9–11 curriculum	Year 5	Control	Assembly	Combined	Lessons
	Year 6	Assembly	Control	Lessons	Combined

The post survey included the same confidence and knowledge questions, and process questions to understand students' experience of the programme. As the curriculum for years 3–4 varied slightly from that for years 5–6, fewer confidence questions were included in the survey for younger pupils. All surveys were matched using ISD's anonymous matching system. Numbers of matched pair surveys are presented in Table A.2.

Table A.2 The number of matched pair surveys for the different delivery models of Be Internet Legends

	Pre (groups)	Post (groups)	Matched surveys
Lessons	2	2	172
Assembly	2	2	208
Combined	2	2	193
Control	2	2	176

We analysed differences between the pre and post survey results statistically to determine which changes could be attributed to the curriculum. The control group served as a comparison for intervention groups, controlling for potential externalities that may have affected all students equally during programme delivery. See 'Statistical Analysis' below.

Focus Groups and Teacher Interviews

We ran student focus groups in each school to obtain further qualitative data about students' experience with the programme, their understanding of the concepts, what worked well and how the curriculum could potentially be improved.

We conducted interviews with two teachers in each school to find out their experience with the curriculum, what they thought worked well, and areas they thought could be improved.

Limitations

There is one key limitation to note when discussing these results. These surveys are composed primarily of self-assessed confidence measures. Children aged 7–11 are not always able to assess their understanding of concepts accurately, particularly in an area where they may have little knowledge, such as this one. We discussed all questions on the surveys with representatives from Parent Zone to ensure they were appropriate and understandable to this age group, yet it is difficult to control for this effect entirely. Therefore, some of these findings may underestimate the impact of the programme.

Description of the Sample

Figures A.1 and A.2 present the demographic data gathered from students in the pre surveys. The sample was roughly evenly split between year groups, though students from year 3 comprised nearly 30% of the sample, while students from year 6 made up less than 20%. There was a roughly even split between boys (48%) and girls (52%) in the sample, while a very small percentage (<1%) of students did not identify as male or female.

A majority of students reported speaking only English at home (58%), one-fifth spoke a mixture of English and another language (21%), and the remaining one-fifth of students spoke a different language exclusively at home (21%).

Over three-quarters of students reported using the internet at least once a day (36% once a day, 20% more than five times per day, and 21% more than ten times per day). Only 16% reported using the internet about once a week, and just 7% reported using the internet only once per month. Internet use was prevalent and frequent among this sample of comparatively young students.

Process Questions

In post surveys, all students were asked questions about their experience with the Be Internet Legends programme. Summaries of responses to process questions for the different groups of participants are presented below.

Overall, students enjoyed the survey, with a majority of students from all delivery models reporting that they liked Be Internet Legends a lot. Participants in the assembly model of delivery enjoyed the programme more than those involved in other methods of delivery (Figure A.3), reflecting the potential 'wow factor' mentioned by one of the teachers.

A consistent and large majority of students participating in all delivery models recognised links between what they learned in the Be Internet Legends curriculum and their experience of the internet (Figure A.4).

A majority of students also thought they had learned new ways to be safer online, with the lessons model of delivery being most successful (69% of participants) (Figure A.5).

After the participating in the lessons model, 83% of students reported they would use the internet differently (compared with 64% for those trained using the assembly model and 75% for those trained with the combined models) (Figure A.6).

Statistical Analysis

In order to assure that the control group was a reliable comparison for the intervention groups, we wanted to verify that the control and intervention groups were statistically similar before the intervention and the control group did not change significantly between pre and post surveying:

- In the pre survey, the control and intervention groups varied at a statistically significant level ($p<.01$) in two questions: Q3 and Q11.
- Between the pre and post survey, the control group demonstrated a statistically significant change in two questions: Q1 and Q4.

Pre scores across all intervention models did not vary at a statistically significant level, so the mean pre scores presented in this report and below are the mean pre scores for all intervention models (for ease). However, statistical testing was conducted on matched pairs from each delivery model.

We calculated change scores for all individuals and compared them across intervention models. As Likert scales produce non-parametric data, we used the Kruskal-Willis Test to find statistically significant differences between intervention models and the control group. For the four questions mentioned above where we identified variances with the control group (Q1, Q3, Q4 and Q11), we disregarded the control group and compared pre and post scores using the Wilcoxan Signed Ranks Test.

Tables A.3–A.6 present an analysis of responses to confidence statements and knowledge questions in pre and post surveys, looking at:

- the mean pre scores for all intervention models
- the post mean for each intervention model
- the percentage change from the pre score for each intervention model
- the p value for determining statistical significance
- the percentage of students who were confident (5 or above on Likert confidence scales) in the pre survey for each intervention model
- the percentage of students who were confident (5 or above on Likert confidence scales) in the post survey for each intervention model
- the number of participants in each of these analyses.

Results are separated by year group and type of programme delivery.

Question

Figure A.1

The year and gender of participants in the evaluation

Year	
Year 3	29.6%
Year 4	26.9%
Year 5	25.6%
Year 6	17.9%

Gender	
Female	51.6%
Male	47.7%
Other	0.7%

Question

Figure A.2

The language spoken at home and level of internet use of participants in the evaluation

Language	
English	57.8%
Other	21.2%
English + Other	21.0%

Internet use	
About once a month	7.5%
About once a week	15.5%
About once a day	35.8%
5+ times a day	19.7%
10+ times a day	21.5%

Question

Figure A.3

Participants' responses to the question 'Did you enjoy BIL?' after participating in Be Internet Legends training, by type of delivery

Lessons	
I liked it a lot	57.1%
I liked it	30.4%
I neither liked it nor disliked it	8.9%
I disliked it	2.0%
I disliked it a lot	1.6%

Assembly	
I liked it a lot	64.2%
I liked it	21.9%
I neither liked it nor disliked it	8.6%
I disliked it	2.4%
I disliked it a lot	2.9%

Combined	
I liked it a lot	58.2%
I liked it	27.9%
I neither liked it nor disliked it	10.6%
I disliked it	1.0%
I disliked it a lot	2.3%

57%

of participants delivered the scheme in lessons said they "liked it a lot"

Question

Figure A.4

Participants' responses to the question 'Can you recognise the links between what you have learned and your experience of the internet?' after participating in Be Internet Legends, by type of delivery

Lessons		Assembly		Combined	
Yes, lots	38.4%	Yes, lots	35.4%	Yes, lots	39.6%
Yes	42.5%	Yes	40.1%	Yes	36.3%
No	4.1%	No	5.9%	No	6.0%
No, not at all	2.0%	No, not at all	3.6%	No, not at all	1.7%
I don't know	13.0%	I don't know	15.0%	I don't know	16.4%

Question

Figure A.5

Participants' responses to the question 'Do you think you have learned new ways to be safer on the internet?' after participating in Be Internet Legends, by type of delivery

Lessons		Assembly		Combined	
Yes, lots	68.6%	Yes, lots	55.2%	Yes, lots	58.9%
Yes	23.3%	Yes	30.7%	Yes	26.3%
No	2.9%	No	5.3%	No	4.4%
No, not at all	1.2%	No, not at all	3.2%	No, not at all	3.7%
I don't know	4.0%	I don't know	5.6%	I don't know	6.7%

Question

Figure A.6

Participants' responses to the question 'Do you think you'll use the internet differently?' after participating in Be Internet Legends, by type of delivery

Lessons		Assembly		Combined	
Yes, lots	53.3%	Yes, lots	33.8%	Yes, lots	46.9%
Yes	29.7%	Yes	30.2%	Yes	27.6%
No	6.5%	No	12.5%	No	4.4%
No, not at all	2.0%	No, not at all	9.5%	No, not at all	4.4%
I don't know	8.5%	I don't know	14.0%	I don't know	16.7%

47%

of participants delivered the scheme would alter their online behaviour "lots"

4%

of participants delivered the scheme in lessons felt they did not learn new ways to be safer online

Table A.3 top **Statistical analysis of responses to confidence statements in pre and post surveys by children in years 3 and 4 who participated in Be Internet Legends, by programme delivery type**

Table A.4 bottom **Statistical analysis of responses to knowledge questions in pre and post surveys by children in years 3 and 4 who participated in Be Internet Legends, by programme delivery type**

Years 3–4, Confidence measures	Pre mean	Post mean	Change (%)	p	Conf pre (%)	Conf post (%)	N	Post mean	Change (%)
I know how I can build a good digital footprint online.	2.97	3.54	19	0.111	22	41	69	3.38	14
I think about how to keep my posts private when I share things online.	4.97	4.37	–12	0.005	57	55	65	4.83	–3
I know how to protect my personal information online.	4.97	4.83	–3	0.392	65	62	66	4.77	–4
I know how to spot a phishing attack online.	3.22	3.50	9	0.628	20	31	64	3.54	10
I know how to spot if something online is false or trying to trick me.	4.98	4.83	–3	0.862	55	59	64	5.23	5
I know how to tell if someone I meet online is someone I can trust.	4.61	5.17	12	0.767	56	68	63	4.54	–2
I know when to talk to an adult about something that may confuse or scare me online.	5.72	6.10	7	0.004	77	87	62	5.82	2
I know when I should be brave and talk about things that may scare me online with an adult.	5.45	5.46	0	0.960	68	73	63	5.48	1
I know which adult I can talk to about things that may confuse or scare me online.	5.72	5.92	4	0.870	78	83	63	5.47	–4

Years 3–4, Knowledge measures	Change (%)	p	Pre (% of correct responses)	Post (% of correct responses)	N	Change (%)
Digital footprint	800	0.000	3	29	63	100
Strong password	17	0.002	56	65	63	940

	p	Conf pre (%)	Conf post (%)	N	Post mean	Change (%)	p	Conf pre (%)	Conf post (%)	N
I know how I can build a good digital footprint online.	0.431	18	32	114	4.23	43	0.012	23	43	152
I think about how to keep my posts private when I share things online.	0.125	57	61	109	5.54	11	0.309	67	73	153
I know how to protect my personal information online.	0.786	54	59	110	5.89	19	0.141	63	82	150
I know how to spot a phishing attack online.	0.769	23	39	109	4.25	32	0.697	37	49	152
I know how to spot if something online is false or trying to trick me.	0.748	68	68	111	5.81	17	0.054	61	78	148
I know how to tell if someone I meet online is someone I can trust.	0.739	48	58	110	5.08	10	0.563	58	64	146
I know when to talk to an adult about something that may confuse or scare me online.	0.048	73	77	111	6.28	10	0.003	78	88	144
I know when I should be brave and talk about things that may scare me online with an adult.	0.835	65	73	108	5.96	9	0.648	79	82	145
I know which adult I can talk to about things that may confuse or scare me online.	0.654	77	74	107	6.23	9	0.398	78	88	145

	p	Pre (% of correct responses)	Post (% of correct responses)	N		Change (%)	p	Pre (% of correct responses)	Post (% of correct responses)	N
Digital footprint	0.123	0	45	93		300	0.000	7	28	144
Strong password	0.023	5	56	93		71	0.000	47	81	144

Table A.5 Statistical analysis of responses to confidence statements in pre and post surveys by children in years 5 and 6 who participated in Be Internet Legends, by programme delivery type
Continued overleaf

Years 5–6, Confidence measures	Pre mean	Post mean	Change (%)	p	Conf pre (%)	Conf post (%)	N	Post mean	Change (%)
I know how I can build a good digital footprint online.	2.72	5.21	92	0.001	25	65	103	3.34	23
I think about how to keep my posts private when I share things online.	5.69	6.25	10	0.804	80	89	102	5.76	1
I know how to protect my personal information online.	5.98	6.25	5	0.966	89	88	103	6.06	1
I know how to spot a. phishing attack online	3.28	5.40	65	0.236	45	73	100	4.28	31
I know how to spot if something online is false or trying to trick me.	5.55	6.22	12	0.674	81	87	103	5.48	–1
I know how to tell if someone I meet online is someone I can trust.	4.85	5.66	17	0.955	74	74	102	5.65	17
I know how to build a strong password.	5.78	6.32	9	0.139	77	88	102	6.42	11
I know how to use my security setting to stay safe online.	5.09	5.88	16	0.209	73	80	101	5.51	8
I would know how to find help if I feel unsafe online.	5.79	6.32	9	0.395	83	91	103	6.24	8
I would know what to do if I saw hurtful behaviour online.	5.71	6.31	10	0.579	81	90	101	6.21	9
I feel responsible for the wellbeing of people connected to me through social media.	4.62	5.37	16	0.068	60	72	103	4.70	2
I consider the motivations behind why people post things online.	4.55	5.22	15	0.600	60	67	100	4.95	9
I know when to talk to an adult about something that may confuse or scare me online.	6.25	6.24	0	0.663	88	85	102	6.46	3

	p	Conf pre (%)	Conf post (%)	N	Post mean	Change (%)	p	Conf pre (%)	Conf post (%)	N
I know how I can build a good digital footprint online.	0.547	13	32	79	4.61	70	0.000	9	52	56
I think about how to keep my posts private when I share things online.	0.528	78	78	78	5.72	1	0.819	72	79	61
I know how to protect my personal information online.	0.080	81	84	79	6.09	2	0.751	81	84	58
I know how to spot a. phishing attack online	0.016	21	45	78	5.24	60	0.001	25	71	55
I know how to spot if something online is false or trying to trick me.	0.695	66	75	77	5.75	4	0.337	79	79	61
I know how to tell if someone I meet online is someone I can trust.	0.132	58	78	78	5.07	4	0.095	42	63	60
I know how to build a strong password.	0.005	65	90	78	6.00	4	0.483	73	81	59
I know how to use my security setting to stay safe online.	0.118	59	75	79	5.45	7	0.081	62	67	58
I would know how to find help if I feel unsafe online.	0.950	82	87	78	6.03	4	0.478	71	81	58
I would know what to do if I saw hurtful behaviour online.	0.030	71	86	76	5.87	3	0.756	77	80	60
I feel responsible for the wellbeing of people connected to me through social media.	0.700	52	57	77	4.39	−5	0.060	39	53	57
I consider the motivations behind why people post things online.	0.281	49	65	78	4.94	9	0.072	43	58	53
I know when to talk to an adult about something that may confuse or scare me online.	0.067	87	94	79	6.31	1	0.055	85	88	59

Table A.5 top **Statistical analysis of responses to confidence statements in pre and post surveys by children in years 5 and 6 who participated in Be Internet Legends, by programme delivery type**

Table A.6 bottom **Statistical analysis of responses to knowledge questions in pre and post surveys by children in years 5 and 6 who participated in Be Internet Legends, by programme delivery type**

Years 5–6, Confidence measures	Pre mean	Post mean	Change (%)	p	Conf pre (%)	Conf post (%)	N	Post mean	Change (%)
I know when I should be brave and talk about things that may scare me online with an adult.	6.03	5.91	–2	0.763	83	83	102	6.41	6
I know which adult I can talk to about things that may confuse or scare me online	6.30	6.33	1	0.562	88	90	102	6.61	5

Years 5–6, Knowledge measures	Change (%)	p	Pre (% of correct responses)	Post (% of correct responses)	N	Change (%)
Digital footprint	460	0	5	29	95	0
Strong password	85	0.486	42	78	95	35
Scammer	81	0.119	22	40	95	75
Upstander	460	0	5	29	95	100

	p	Conf pre (%)	Conf post (%)	N	Post mean	Change (%)	p	Conf pre (%)	Conf post (%)	N
I know when I should be brave and talk about things that may scare me online with an adult.	0.448	86	92	78	6.15	2	0.055	76	83	59
I know which adult I can talk to about things that may confuse or scare me online	0.405	90	95	79	6.27	0	0.287	88	88	60

	p	Pre (% of correct responses)	Post (% of correct responses)	N	Change (%)	p	Pre (% of correct responses)	Post (% of correct responses)	N
Digital footprint	0.497	6	6	63	350	0.137	4	17	53
Strong password	0.903	54	73	63	50	0.12	42	62	53
	0.049	25	44	63	–17	0.124	23	19	53
	0.046	0	6	63	850	0	4	36	53

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Be Internet Citizens

Methodology

We evaluated two delivery models of the Be Internet Citizens curriculum in this report: direct delivery and train-the-trainer. Each of these evaluations included:

- pre and post surveys to all teenagers
- qualitative focus groups with selected students
- interviews with selected teachers about their experience with the curriculum.

Details of each of these evaluations are outlined below, by delivery model.

Direct Delivery Sampling Plan

We evaluated this delivery model in six schools across the UK, randomising student participation in the programme at class level. Some classes did not participate, creating a control group. After cleaning the data, the full sample size was 440 (Table A.7).

Surveying

All students (participants and control group) were surveyed four times: before the intervention, immediately following the intervention, and three months and six months after the intervention. The pre survey included:

- basic demographic questions (e.g. age, birth country, language spoken at home)
- confidence questions on a Likert scale, measuring students' confidence in and understanding of key curriculum elements
- open response and multiple choice knowledge questions, measuring students' knowledge of key curriculum elements.

The post survey included the same confidence and knowledge questions, and process questions to investigate students' experience of the programme. Three- and six-month follow-up surveys included only confidence and knowledge measures.

We analysed differences between the pre and post surveys statistically to determine which changes could be attributed to the curriculum. The control group served as a comparison for intervention group, controlling for potential externalities that may have affected all students equally during programme delivery. We conducted the same analysis on the three- and six-month follow-up surveys, as detailed below.

Focus Groups and Teacher Interviews

We held four student focus groups to obtain further qualitative data about the students' experience of the programme, their understanding of the concepts, what worked well and how the curriculum could potentially be improved.

Table A.7 Sample size of the direct delivery model of Be Internet Citizens by time of survey

	Sample size
Pre	440
Post	440
3-month follow-up	306
6-month follow-up	88

Table A.8 Sample size of the train-the-trainer model of Be Internet Citizens by time of survey

	Sample size
Pre	223
Post	223
3-month follow-up	166
6-month follow-up	0

We also conducted four teacher interviews to find out their experience of the curriculum, what they thought worked well, and areas they thought could be improved.

Train-the-Trainer Sampling Plan

We evaluated this delivery model with a sample size of 223 over seven training sessions, four in schools and three in youth centres, and used no control group (Table A.8).

Surveying

We surveyed teenagers three times: before the intervention, immediately following the intervention and three months after the intervention, using surveys asking:

- basic demographic questions (e.g. age, birth country, language spoken at home)
- confidence questions on a Likert scale, measuring students' confidence in and understanding of key curriculum elements
- open response and multiple choice knowledge questions, measuring students' knowledge of key curriculum elements.

The post survey included the same confidence and knowledge questions, and process questions to find out students' experience with the programme. Three-month follow-up surveys included only confidence and knowledge measures.

We analysed differences between the pre and post surveys and three-month follow-up surveys statistically to determine which changes could be attributed to the curriculum, as detailed below.

Teacher and Youth Worker Interviews

We conducted seven informal interviews with teachers and youth workers who delivered the curriculum to find out their experience of the curriculum, what they thought worked well, and areas they thought could be improved.

Limitations

As with the Be Internet Legends evaluation, these surveys primarily comprise self-assessed confidence measures. Teenagers are not always able to assess their understanding of concepts accurately, particularly in an area where they may have little knowledge, such as this one. We crafted questions to ensure they were appropriate and understandable to this age group (13–15), yet it is difficult to control for this effect entirely. Therefore, some of these findings may underestimate the impact of the programme.

Description of the Sample

Participants

We collected demographic details of students who participated in the school workshops and train-the-trainer model through the pre surveys. This data is critical to ensure that the project addressed and worked effectively for all in the target audience. It will continue to be valuable in future iterations of the project, allowing us to adapt and refine the content to ensure equality of outcomes.

Students: School Workshops

The student demographics show that gender distribution in the school workshops was well balanced, with broadly equal numbers of boys, girls and other genders participating: 52% of participants were male, 46% were female and 1% chose 'other' (Figure A.7).

The target age group for school workshops was 13–15 and we were successful in reaching this age group: 98% of participants were aged 13–15, and 2% were 16 (Figure A.8). Thus we could evaluate how effective the workshops had been, notably whether their content was age appropriate for the intended target audience.

Around two-thirds (63%) of participants came from a non-religious background. The three main religions represented were Christianity (18%), Islam (15%) and Hinduism (2%) (Figure A.9).

About two-thirds (65%) of participants had a white British background (Figure A.10) and 91% were born in

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the UK (Figure A.11). Others came from other countries, such as Pakistan, and 15% of participants spoke a language other than English at home (Figure A.13).

Nearly three-quarters (71%) of the parents of participants were born in the UK (Figure A.12), and 85% of participants' families spoke English at home (Figure A.13). In total, 9% of participants were first generation migrants, and 30% were second generation migrants (Figures A.11 and A.12).

The reason for the lack of diversity among participants is that two of the school workshops took place in rural, homogenous areas, rather than large cities. In future there should be an effort to ensure that school workshops delivering this programme include participants from a broad cross-section of British society, and participants who are culturally varied.

Teenagers: Train-the-trainer

As with the school workshop demographics, the gender distribution for young people teachers and youth workers taught was well balanced: 47% of participants were female, and 53% were male (Figure A.14).

The age range of young people participating in the train-the-trainer model was, as expected, in line with the target age of the programme, although these teenagers were notably younger than the students who participated in the school workshops: 85% of the participants were aged 13, with the remaining 15% being 14 or over (Figure A.15). The results from the evaluation survey demonstrate that this delivery model has highly beneficial results for those at the starting age of the programme.

Unlike the school workshops, the majority of young people under the train-the-trainer model came from a diverse range of religious backgrounds. The three main religions represented were Christianity (34%), Islam (28%) and Sikhism (18%) (Figure A.16).

Similarly, the ethnic diversity of participants was far greater under the train-the-trainer model than the school workshops: 20% of participants came from an Indian background, 20% were white British and 18% were African (Figure A.17). The rest were from a variety of countries, from Pakistan to Bangladesh, and other Asian and Caribbean countries.

Overall, 83% of participants were born in the UK and 17% were born elsewhere (Figure A.18). Three-quarters (75%) had at least one parent born in a different country (Figure A.19), so 75% of participants were either first or second generation migrants. Just over half (53%) spoke a language other than English at home, with 47% speaking English at home (Figure A.20).

This diversity increases our confidence that the train-the-trainer model was able to reach a broad cross-section of British society, mainly because training sessions took place with teachers and youth workers in big UK cities. In future managers of the programme should engage practitioners who work with diverse groups to run it.

Process Questions

In post-programme surveys we asked students process questions about their experience with Be Internet Citizens, the results of which are shown in figures A.21–A.23.

Statistical Analysis

In order to assure that the control group was a reliable comparison for the intervention group, we analysed the survey results to verify that the control and intervention groups were statistically similar before the intervention and the control group did not change significantly between pre and post surveying:

- In the pre survey, the control and intervention groups varied at a statistically significant level ($p<.01$) in one question: Q15.
- There was no significant variation between pre and post surveys in the control group.

We calculated change scores for all individuals and compared them across intervention models. As Likert scales produce non-parametric data, we used the Kruskal-Willis Test to test for statistically significant differences between intervention and control groups for school workshops (direct delivery), and the Wilcoxan Signed Ranks Test to test for statistically significant differences between pre and post surveys for the train-the-trainer model (which lacked a control group).

There was statistically significant variation in the control group for responses to question 15, so we disregarded the control group and used the Wilcoxan Signed Ranks Test.

Tables A.9–A.12 present an analysis of responses to confidence statements and knowledge questions in pre and post surveys for the two delivery models, looking at:

- the mean pre scores for each intervention model
- the post mean for each intervention model
- the percentage change from the pre score for each intervention model
- the p value for determining statistical significance
- the percentage of students who were confident (5 or above on Likert confidence scales) in the pre survey for each intervention model
- the percentage of students who were confident (5 or above on Likert confidence scales) in the post survey for each intervention model
- the N for each of these analyses
- the same for mid-term and long-term follow-up surveys.

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Question

Figure A.7

The gender of school workshop participants

Gender	
Female	46.5%
Male	52.4%
Other	1.1%

Question

Figure A.8

The age of school workshop participants

Age	
13	23.2%
14	40.3%
15	34.8%
16	1.7%
17	0.0%

Question

Figure A.9

The religion of school workshop participants

Religion	
None/non-religious	62.6%
Christian	18.0%
Buddhist	0.4%
Hindu	2.0%
Jewish	0.0%
Muslim	15.3%
Sikh	0.3%
Other	1.4%

Question

Figure A.10

The ethnicity of school workshop participants

Ethnicity	
White British	65.1%
Other white	4.8%
White & black Carribean	2.7%
White & black African	0.0%
White & Asian	4.8%
Any other mixed/multiple ethnic background	1.0%
African	2.4%
Carribean	1.0%
Any other black/African/ Carribean background	1.0%
Indian	3.8%
Pakistani	8.9%
Bangladeshi	1.4%
Chinese	0.3%
Any other Asian background	1.7%
Arab	0.7%
Any other ethnic group	0.3%

Question

Figure A.11

The birthplace of school workshop participants

Birthplace	
UK	91.1%
Other	8.5%
Don't know	0.4%

Question

Figure A.12

The birthplace of parents of school workshop participants

Birthplace	
UK	71.0%
Other	21.5%
UK + Other	7.5%

Question

Figure A.13

The language spoken in the homes of school workshop participants

Language	
English	85.4%
Other	4.8%
English + other	9.8%

Question

Figure A.14

The gender of teenagers taught the curriculum by trained teachers and youth workers (TTT)

Gender	
Female	46.5%
Male	53.1%
Other	0.3%

Question

Figure A.15

The age of teenagers taught the curriculum by trained teachers and youth workers (TTT)

Age	
13	85.1%
14	10.5%
15	3.8%
16	0.0%
17	0.6%

Question

Figure A.16

The religion of teenagers taught the curriculum by trained teachers and youth workers (TTT)

Religion	
None/non-religious	11.7%
Christian	33.7%
Buddhist	1.0%
Hindu	7.1%
Jewish	0.0%
Muslim	28.1%
Sikh	17.9%
Other	0.5%

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Question

Figure A.17

The ethnicity of teenagers taught the curriculum by trained teachers and youth workers

Ethnicity	
White British	19.8%
Other white	9.1%
White & black Carribean	1.0%
White & black African	0.0%
White & Asian	2.0%
Any other mixed/multiple ethnic background	4.0%
African	18.3%
Carribean	1.5%
Any other black/African/ Carribean background	1.0%
Indian	20.3%
Pakistani	8.1%
Bangladeshi	1.5%
Chinese	0.0%
Any other Asian background	10.7%
Arab	1.5%
Any other ethnic group	1.0%

Question

Figure A.18

The birthplace of teenagers taught the curriculum by trained teachers and youth workers

Birthplace	
UK	83.2%
Other	16.8%
Don't know	0.0%

Question

Figure A.19

The birthplace of parents of teenagers taught the curriculum by trained teachers and youth workers

Birthplace	
UK	25.1%
Other	65.1%
UK + Other	9.8%

Question

Figure A.20

The language spoken in the homes of teenagers taught the curriculum by trained teachers and youth workers

Language	
English	46.7%
Other	21.3%
English + other	32.0%

8.1%

of Be Internet Citizen workshop participants answered 'No' when asked if they felt they gained new knowledge

1.5%

of teens taught the curriculum by trained teachers and youth workers were Bangladeshi

School Workshops

Figure A.21 Responses of participants in school workshops to questions about their experience with Be Internet Citizens

Figure A.21

Did you enjoy the workshop?

Workshop participants

I liked it	**41.9%**
I liked it a lot	23.7%
I neither liked nor disliked it	23.0%
I disliked it	7.4%
I disliked it a lot	4.0%

Figure A.21

How relevant do you feel the content of the workshop was to you/ your life?

Workshop participants

Quite relevant	**50.1%**
Highly relevant	13.8%
Neither relevant nor irrelevant	19.4%
Quite irrelevant	10.8%
Highly irrelevant	5.9%

Figure A.21

Do you feel like you understood the subject matter by the end of the workshop?

Workshop participants

Understood some of it	**45.6%**
Understood everything	39.3%
Understood little	6.8%
Understood nothinig	4.7%
I don't know	3.6%

Figure A.21

Do you feel like you learned new skills?

Workshop participants

Yes	**52.9%**
Yes, lots	15.4%
No	10.6%
No, not at all	7.7%
I don't know	13.4%

Figure A.21

Do you feel like you gained new knowledge?

Workshop participants

Yes	**57.4%**
Yes, lots	18.4%
No	8.1%
No, not at all	7.3%
I don't know	8.8%

Figure A.21

Do you think that you'll behave differently online as a result?

Workshop participants

Yes	**41.6%**
Yes, lots	9.2%
No	21.5%
No, not at all	10.2%
I don't know	17.5%

Figure A.21

Do you feel like the workshop was appropriate for your age?

Workshop participants

I think it was appropriate for my age group	**75.2%**
I think it was more appropriate for older people	9.5%
I think it was more appropriate for younger people	1.8%
I don't know	13.5%

Figure A.21

Do you think the definition pack you were given is useful?

Workshop participants

Quite useful	**40.7%**
Highly useful	22.9%
Neither useful nor useless	16.7%
Not very useful	7.0%
Not useful at all	7.7%
I don't know	5.0%

Train-the-Trainer Workshops

Figure A.22 Responses of participants in train-the-trainer workshops taught by trained teachers to questions about their experience with Be Internet Citizens

Figure A.22
Did you enjoy the workshop?

Workshop participants

I liked it	**53.8%**
I liked it a lot	24.6%
I neither liked nor disliked it	19.9%
I disliked it	1.3%
I disliked it a lot	0.4%

Figure A.22
How relevant do you feel the content of the workshop was to you/ your life?

Workshop participants

Quite relevant	**57.3%**
Highly relevant	22.4%
Neither relevant nor irrelevant	16.0%
Quite irrelevant	3.4%
Highly irrelevant	0.9%

Figure A.22
Do you feel like you understood the subject matter by the end of the workshop?

Workshop participants

Understood some of it	**51.9%**
Understood everything	38.3%
Understood little	6.4%
Understood nothinig	0.4%
I don't know	3.0%

Figure A.22
Do you feel like you learned new skills?

Workshop participants

Yes	**64.7%**
Yes, lots	20.9%
No	5.5%
No, not at all	0.8%
I don't know	8.1%

Figure A.22
Do you feel like you gained new knowledge?

Workshop participants

Yes	**62.9%**
Yes, lots	28.9%
No	2.6%
No, not at all	0.8%
I don't know	4.7%

Figure A.22
Do you think that you'll behave differently online as a result?

Workshop participants

Yes	**51.5%**
Yes, lots	19.8%
No	10.7%
No, not at all	3.0%
I don't know	15.0%

Figure A.22
Do you feel like the workshop was appropriate for your age?

Workshop participants

I think it was appropriate for my age group	**82.8%**
I think it was more appropriate for older people	3.4%
I think it was more appropriate for younger people	5.2%
I don't know	8.6%

Figure A.22
Do you think the definition pack you were given is useful?

Workshop participants

Quite useful	**56.4%**
Highly useful	27.4%
Neither useful nor useless	7.3%
Not very useful	1.7%
Not useful at all	0.4%
I don't know	6.8%

Train-the-Trainer Workshops

Figure A.23 Responses of participants in train-the-trainer workshops taught by trained youth workers to questions about their experience with Be Internet Citizens

Figure A.23
Did you enjoy the workshop?

Workshop participants

I liked it a lot	**50.0%**
I liked it	34.6%
I neither liked nor disliked it	7.7%
I disliked it	0.0%
I disliked it a lot	7.7%

Figure A.23
How relevant do you feel the content of the workshop was to you/ your life?

Workshop participants

Quite relevant	**38.5%**
Highly relevant	34.6%
Neither relevant nor irrelevant	7.7%
Quite irrelevant	11.5%
Highly irrelevant	7.7%

Figure A.23
Do you feel like you understood the subject matter by the end of the workshop?

Workshop participants

Understood everything	**42.3%**
Understood some of it	34.6%
Understood little	11.5%
Understood nothing	7.7%
I don't know	3.9%

Figure A.23
Do you feel like you learned new skills?

Workshop participants

Yes	**50.0%**
Yes, lots	34.6%
No	0.0%
No, not at all	7.7%
I don't know	7.7%

Figure A.23
Do you feel like you gained new knowledge?

Workshop participants

Yes, lots	**50.0%**
Yes	30.7%
No	0.0%
No, not at all	3.9%
I don't know	15.4%

Figure A.23
Do you think that you'll behave differently online as a result?

Workshop participants

Yes, lots	**44.0%**
Yes	**44.0%**
No	4.0%
No, not at all	8.0%
I don't know	0.0%

Figure A.23
Do you feel like the workshop was appropriate for your age?

Workshop participants

I think it was appropriate for my age group	**73.1%**
I think it was more appropriate for older people	11.5%
I think it was more appropriate for younger people	3.9%
I don't know	11.5%

Figure A.23
Do you think the definition pack you were given is useful?

Workshop participants

Quite useful	**46.2%**
Highly useful	38.5%
Neither useful nor useless	3.8%
Not very useful	0.0%
Not useful at all	3.8%
I don't know	7.7%

Table A.9 Statistical analysis of responses to confidence statements in pre and post surveys by respondents who participated in the direct delivery model of Be Internet Citizens

Direct delivery, Confidence measures		Pre mean	Post mean	Change (%)	p	Conf pre (%)	Conf post (%)	N
I am always happy to listen to people expressing different worldviews to my own.	Pre & post surveys	5.24	5.38	3	0.630	70	72	265
	Pre & mid-term...	5.37	5.34	−1	0.970	75	76	198
	Pre & long-term...	5.67	5.40	−5	0.105	84	73	73
I feel confident expressing my views online.	Pre & post surveys	4.26	4.63	9	0.005	43	54	265
	Pre & mid-term...	4.40	4.51	2	0.187	47	51	200
	Pre & long-term...	4.36	4.52	4	0.909	52	48	73
I feel responsible for the wellbeing of people connected to me through social media.	Pre & post surveys	4.04	4.11	2	0.407	36	41	267
	Pre & mid-term...	4.18	4.31	3	0.428	39	43	195
	Pre & long-term...	4.10	4.24	3	0.235	33	37	73
If I wasn't sure a story was true, and I wanted to share it, I'd fact check it first.	Pre & post surveys	4.85	5.08	5	0.259	60	65	264
	Pre & mid-term...	4.68	4.73	1	0.384	56	56	199
	Pre & long-term...	4.93	5.00	1	0.719	56	56	73
I consider the motivations behind why people post things online.	Pre & post surveys	4.35	4.62	6	0.156	49	52	263
	Pre & mid-term...	4.43	4.46	1	0.207	50	50	197
	Pre & long-term...	4.76	4.56	−4	0.546	53	42	72
I'm motivated to seek out views and opinions that differ to my own online.	Pre & post surveys	3.90	4.33	11	0.017	35	40	261
	Pre & mid-term...	4.01	4.27	7	0.117	39	46	195
	Pre & long-term...	4.41	4.31	−2	0.153	44	41	71
I would know what to do if I came across hate speech online.	Pre & post surveys	5.07	5.51	9	0.011	64	77	261
	Pre & mid-term...	5.05	5.11	1	0.108	63	68	194
	Pre & long-term...	4.76	5.00	5	0.393	64	57	72
I know how and why to 'flag' or report social media content.	Pre & post surveys	5.62	5.85	4	0.017	78	82	261
	Pre & mid-term...	5.55	5.43	−2	0.367	74	75	195
	Pre & long-term...	4.92	5.05	3	0.860	69	67	70
I would recognise 'Us vs Them' arguments online.	Pre & post surveys	4.26	5.38	26	0.000	44	74	263
	Pre & mid-term...	4.09	4.81	18	0.002	40	56	198
	Pre & long-term...	3.88	4.83	25	0.148	38	46	72
I would recognise when a social media post, article or website is designed to emotionally manipulate people.	Pre & post surveys	4.97	5.43	9	0.016	62	71	263
	Pre & mid-term...	4.92	4.98	1	0.936	60	67	195
	Pre & long-term...	4.70	4.80	2	0.428	57	54	72

Table A.9 top **Statistical analysis of responses to confidence statements in pre and post surveys by respondents who participated in the direct delivery model of Be Internet Citizens**
Table A.10 bottom **Statistical analysis of responses to knowledge questions in pre and post surveys by respondents who participated in the direct delivery model of Be Internet Citizens**

Direct delivery, Confidence measures		Pre mean	Post mean	Change (%)	p	Conf pre (%)	Conf post (%)	N
I am always happy to listen to people expressing different worldviews to my own.	Pre & post surveys	5.24	5.38	3	0.630	70	72	265
	Pre & mid-term...	5.37	5.34	−1	0.970	75	76	198
	Pre & long-term...	5.67	5.40	−5	0.105	84	73	73
I feel confident expressing my views online.	Pre & post surveys	4.26	4.63	9	0.005	43	54	265
	Pre & mid-term...	4.40	4.51	2	0.187	47	51	200
	Pre & long-term...	4.36	4.52	4	0.909	52	48	73
I feel responsible for the wellbeing of people connected to me through social media.	Pre & post surveys	4.04	4.11	2	0.407	36	41	267
	Pre & mid-term...	4.18	4.31	3	0.428	39	43	195
	Pre & long-term...	4.10	4.24	3	0.235	33	37	73
If I wasn't sure a story was true, and I wanted to share it, I'd fact check it first.	Pre & post surveys	4.85	5.08	5	0.259	60	65	264
	Pre & mid-term...	4.68	4.73	1	0.384	56	56	199
	Pre & long-term...	4.93	5.00	1	0.719	56	56	73
I consider the motivations behind why people post things online.	Pre & post surveys	4.35	4.62	6	0.156	49	52	263
	Pre & mid-term...	4.43	4.46	1	0.207	50	50	197
	Pre & long-term...	4.76	4.56	−4	0.546	53	42	72

Direct delivery, Knowledge measures		Pre (% of correct responses)	Post (% of correct responses)	Change (%)	p	N
Fake news	Pre & post surveys	24	40	71	0.000	220
	Pre & mid-term...	24	26	8	0.475	220
	Pre & long-term...	42	71	70	0.000	220
Hate speech	Pre & post surveys	23	23	1	0.565	235
	Pre & mid-term...	78	84	8	0.752	167
	Pre & long-term...	75	85	13	0.571	53
Scapegoating	Pre & post surveys	20	23	15	0.000	207
	Pre & mid-term...	72	83	14	0.572	145
		79	81	3	0.462	47

Table A.11 Statistical analysis of responses to confidence statements in pre and post surveys by respondents who were taught the Be Internet Citizens curriculum by trained teachers and youth workers

TTT, Confidence measures		Pre mean	Post/MT mean	Change (%)	p	Conf pre (%)	Conf post/MT (%)	N
I am always happy to listen to people expressing different worldviews to my own.	Pre & post surveys	5.12	5.48	7	0.001	66	73	197
	Pre & mid-term...	5.32	6.06	14	0.000	73	91	140
I feel confident expressing my views online.	Pre & post surveys	4.36	4.99	14	0.000	46	65	198
	Pre & mid-term...	4.52	4.74	5	0.280	50	55	141
I feel responsible for the wellbeing of people connected to me through social media.	Pre & post surveys	4.54	4.58	1	0.701	49	54	196
	Pre & mid-term...	4.54	5.03	11	0.004	49	60	142
If I wasn't sure a story was true, and I wanted to share it, I'd fact check it first.	Pre & post surveys	5.06	5.60	11	0.000	64	78	199
	Pre & mid-term...	5.15	5.57	8	0.076	69	76	139
I consider the motivations behind why people post things online.	Pre & post surveys	4.48	5.02	12	0.000	50	62	192
	Pre & mid-term...	4.52	4.92	9	0.012	48	64	143
I'm motivated to seek out views and opinions that differ to my own online.	Pre & post surveys	4.13	4.76	15	0.000	39	56	193
	Pre & mid-term...	4.30	5.06	18	0.000	45	67	139
I would know what to do if I came across hate speech online.	Pre & post surveys	5.67	5.81	2	0.387	77	79	197
	Pre & mid-term...	5.84	5.78	–1	0.367	79	83	142
I know how and why to 'flag' or report social media content.	Pre & post surveys	.89	5.97	1	0.849	83	86	196
	Pre & mid-term...	6.16	6.11	–1	0.732	86	90	139
I would recognise 'Us vs Them' arguments online.	Pre & post surveys	4.66	5.52	19	0.000	56	78	196
	Pre & mid-term...	4.53	5.33	18	0.000	53	71	142
I would recognise when a social media post, article or website is designed to emotionally manipulate people.	Pre & post surveys	5.13	5.60	9	0.000	62	79	193
	Pre & mid-term...	5.32	5.71	7	0.001	65	81	140

Table A.11 top **Statistical analysis of responses to confidence statements in pre and post surveys by respondents who were taught the Be Internet Citizens curriculum by trained teachers and youth workers**

Table A.12 bottom **Statistical analysis of responses to knowledge questions in pre and post surveys by respondents who were taught the Be Internet Citizens curriculum by trained teachers and youth workers**

TTT, Confidence measures		Pre mean	Post/MT mean	Change (%)	p	Conf pre (%)	Conf post/MT (%)	N
I understand the differences between hate speech and free speech.	Pre & post surveys	5.73	6.16	7	0.001	80	89	196
	Pre & mid-term...	6.00	5.86	−2	0.370	82	87	142
I understand what echo chambers (also known as 'the bubble') are.	Pre & post surveys	2.47	5.40	119	0.000	17	74	187
	Pre & mid-term...	2.29	5.20	127	0.000	17	66	133
I understand what the 'filter bubble' is.	Pre & post surveys	2.75	5.41	97	0.000	23	73%	189
	Pre & mid-term...	2.63	5.12	95	0.000	23	66	132
I would be able to identify 'fake news'.	Pre & post surveys	5.18	5.96	15	0.000	68	88%	198
	Pre & mid-term...	5.42	6.08	12	0.000	73	89	141
I understand what 'scapegoating' is.	Pre & post surveys	2.45	5.42	122	0.000	17	72%	186
	Pre & mid-term...	2.08	5.22	151	0.000	16	63	131

Knowledge measures		Pre (% of correct responses)	Post/MT (% of correct responses)	Change (%)	p	N
Fake news	Pre & post surveys	35	62	78	0.000	180
	Pre & mid-term...	35	39	12	0.207	180
Hate speech	Pre & post surveys	41	52	27	0.000	185
	Pre & mid-term...	65	81	24	0.000	139
Scapegoating	Pre & post surveys	38	50	34	0.001	141
	Pre & mid-term...	60	75	24	0.011	110

Technical appendices

Be Internet Citizens: Teacher and Youth Worker Surveys

We gave surveys to all teachers and youth workers who ISD trained as part of the train-the-trainer model before and after their training.

The post survey included the same confidence and knowledge questions as the pre survey, and process questions about participants' experience with the training. We analysed differences between the pre and post surveys results to determine where changes could be attributed to the training (figures A.24–A.31).

Figure A.24
Responses of participants in train-the-trainer workshops taught by trained youth workers to questions about their experience with Be Internet Citizens

Figure A.24
Reason for attending

Teachers & youth workers

For continued professional development	**41.0%**
Personal interest in digital citizenship	11.0%
To receive session plans and resources	38.0%
Asked to attend by colleagues	6.0%
Other	4.0%

Figure A.24
Would you like to receive more training in how to teach digital citizenship?

Teachers & youth workers

Yes, certainly	**64.0%**
Yes, probably	33.0%
No, probably not	0.0%
No, certainly not	0.0%
I don't know	3.0%

Figure A.24
How much do you know about digital citizenship?

Teachers & youth workers

A moderate amount	**48.0%**
A great deal	4.0%
A lot	49.0%
A little	22.0%
None at all	17.0%

Figure A.24
Do you think it is important to teach digital citizenship to young people?

Teachers & youth workers

Extremely important	**74.0%**
Very important	17.0%
Somewhat important	9.0%
Not so important	0.0%
Not at all important	0.0%

Figure A.24
Do you think digital citizenship is effectively taught in your school?

Teachers & youth workers

Taught neither well nor badly	**33.0%**
Very well taught	0.0%
Well taught	17.0%
Badly taught	25.0%
Very badly taught	0.0%
I don't know	25.0%

Figure A.24
In your experience working in and with schools, do PSHE teachers know enough about digital citizenship to teach it effectively?

Teachers & youth workers

No, probably not	**55.0%**
Yes, certainly	5.0%
Yes, probably	7.0%
No, certainly not	20.0%
I don't know	13.0%

Figure A.24
Have you taught digital citizenship to young people before?

Teachers & youth workers

No	**58.0%**
Yes	42.0%

Table A.13 **Statistical analysis of responses to confidence statements in pre and post surveys of teachers who participated in the train-the-trainer model of delivery of Be Internet Citizens**

Confidence measures	Pre mean	Post mean	Change (%)	p	Conf pre (%)	Conf post (%)	N
I am confident having sensitive conversations with young people about extremism and terrorism.	4.76	6.03	27	0.000	59	88	34
I am confident having sensitive conversations with young people about race and ethnicity.	5.15	6.12	19	0.001	71	91	34
I understand the concept of fake news.	4.88	6.71	37	0.000	59	97	34
I understand the concept of biased writing.	5.53	6.71	21	0.000	82	97	34
I understand the concept of echo chambers.	3.00	6.56	119	0.000	21	94	34
I understand the concept of filter bubbles.	2.59	6.35	145	0.000	18	94	34
I understand the concept of emotional manipulation.	5.09	6.71	32	0.000	74	97	34
I understand the concept of scapegoating.	5.15	6.68	30	0.000	76	97	34
I understand the concept of us vs. them rhetoric.	5.03	6.62	32	0.000	68	97	34
I understand the concept of hate speech.	5.21	6.59	27	0.000	74	97	34
I understand the concept of free speech.	5.44	6.47	19	0.000	82	97	34

Knowledge measures	Change (%)	p	Pre (%)	Post (%)	N
Able to define hate speech	–3	0.564	97	94	34
Able to define scapegoating	0	1.000	97	97	34

Figure A.25 Responses to questions on whether teachers enjoyed the training, round it relevant, understood it and learned new skills, gained new knowledge, thought it the right length, though it important to teach digital citizenship in schools, thought the programme helpful to potential teachers and were likely to give further training, and felt confident to do so

Figure A.25
Did you enjoy the training?

Teachers

I liked it a lot	**82.0%**
I liked it	15.0%
I neither liked nor disliked it	3.0%
I disliked it	0.0%
I disliked it a lot	0.0%

Figure A.25
How relevant do you feel the content of the workshop was to the students you work with?

Teachers

Highly relevant	**77.0%**
Quite relevant	20.0%
Neither relevant nor irrelevant	0.0%
Quite irrelevant	3.0%
Highly irrelevant	0.0%

Figure A.25
Do you feel like you understood the content by the end of the workshop?

Teachers

Understood everything	**92.0%**
Understood some of it	8.0%
Understood little	0.0%
Understood nothing	0.0%
I don't know	0.0%

Figure A.25
Do you feel like you learned new skills?

Teachers

Yes	**48.0%**
Yes, lots	42.0%
No	5.0%
No, not at all	0.0%
I don't know	5.0%

Figure A.25
Do you feel like you gained new knowledge?

Teachers

Yes, lots	**62.0%**
Yes	35.0%
No	3.0%
No, not at all	0.0%
I don't know	0.0%

Figure A.25
Was the workshop the right length?

Teachers

It was the right length	**92.0%**
It was too long	5.0%
It was too short	2.0%
I don't know	0.0%

Figure A.25
Do you think it is important to teach digital citizenship in schools?

Teachers

Very important	**92.0%**
Important	5.0%
Slightly imporant	3.0%
Not important	0.0%
Not at all important	0.0%
I don't know	0.0%

Figure A.25
How helpful do you think the Be Internet Citizens programme is to teachers who want to teach digital citizenship?

Teachers

Very helpful	**85.0%**
Helpful	15.0%
Not very helpful	0.0%
Unhelpful	0.0%
I don't know	0.0%

Figure A.25

How likely are you to deliver some of the Be Internet Citizens toolkit to students?

Teachers

Very likely	**82.0%**
Likely	15.0%
Neither likely nor unlikely	3.0%
Unlikely	0.0%
Very unlikely	0.0%
I don't know	0.0%

Figure A.25

How likely are you to deliver all of the sessions in the toolkits to students?

Teachers

Very likely	**56.0%**
Likely	20.0%
Neither likely nor unlikely	8.0%
Unlikely	13.0%
Very unlikely	3.0%
I don't know	0.0%

Figure A.25

How confident are you that you could deliver the Be Internet Citizens lessons to students you work with?

Teachers

Very confident	**66.0%**
Confident	34.0%
Not very confident	0.0%
Not confident at all	0.0%

92%

of teachers felt like they 'understood everything' of the content by the end of the workshop

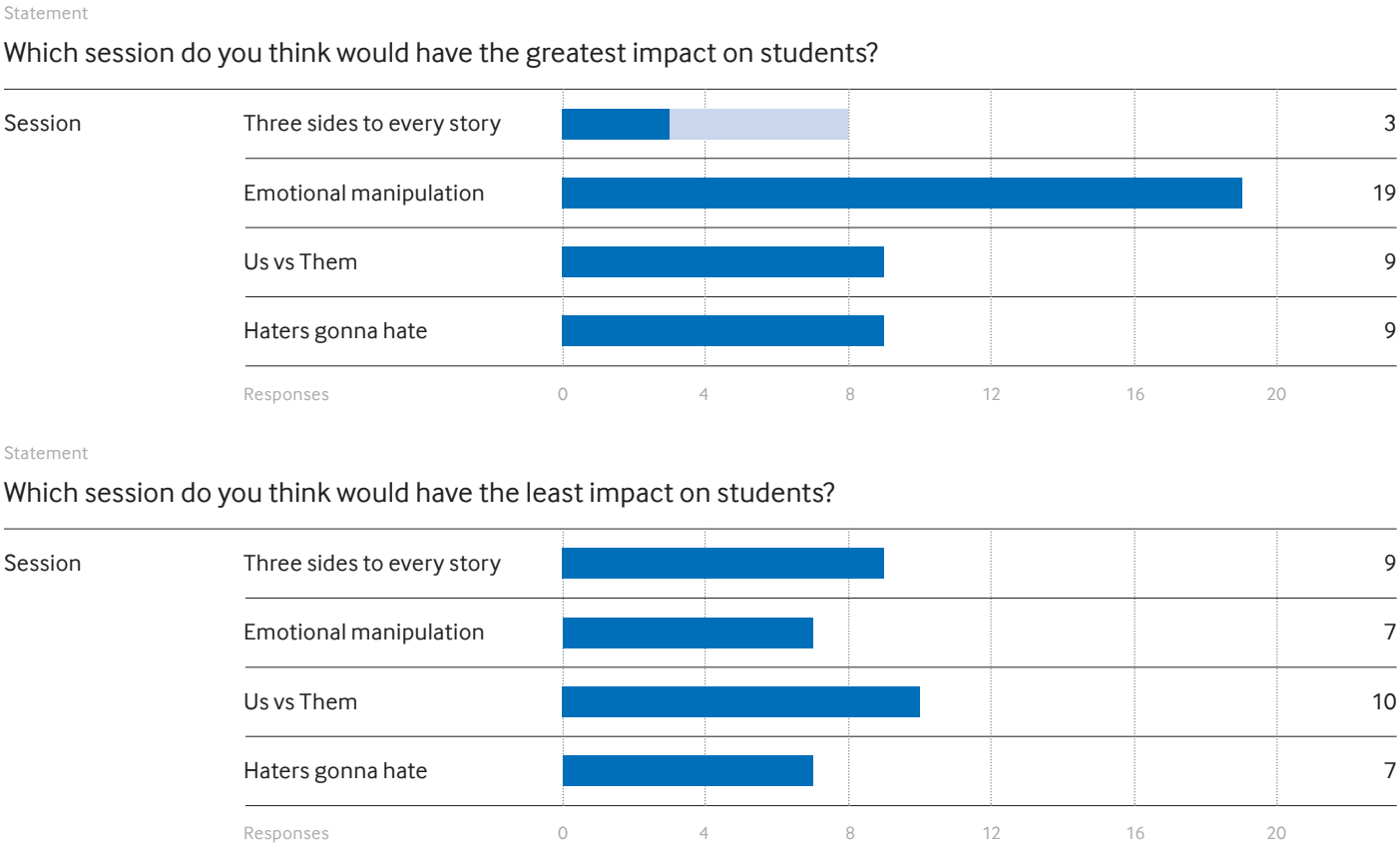
85%

of teachers think the Be Internet Citizens programme is 'very helpful' to teachers

3%

of teachers were 'very unlikely' to deliver all of the sessions in the toolkit to students

Figure A.26 Responses of teachers who participated in Be Internet Citizens train-the-trainer workshops when asked which session would have the greatest and least impact on students



95%

of teachers felt the Emotional Manipulation session would have the greatest impact

50%

of teachers felt the Us vs Them session would have the least impact on students

Technical appendices

Youth Workers
Pre Survey Digital Citizenship Questions

Figure A.27
The reasons why youth workers attended the training sessions, how much they knew about digital citizenship, whether they thought it important to teach digital citizenship to young people, whether they work with young people on digital citizenship issues, and find training valuable

Figure A.27
Reason for attending

Youth workers

For continued professional development	**42.0%**
Personal interest in digital citizenship	23.0%
To receive session plans and resources	22.0%
Asked to attend by colleagues	10.0%
Other	3.0%

Figure A.27
How much do you know about digital citizenship?

Youth workers

A little	**52.0%**
A great deal	2.0%
A lot	1.0%
A moderate amount	28.0%
None at all	17.0%

Figure A.28
In your experience working in or with youth centres and community organisations, how well taught do you think digital citizenship is?

Youth workers

Taught neither well nor badly	**49.0%**
Very well taught	0.0%
Well taught	9.0%
Badly taught	15.0%
Very badly taught	10.0%
I don't know	17.0%

Figure A.27
Do you currently work with young people on digital citizenship issues?

Youth workers

Yes, infrequently	**43.0%**
Yes, frequently	15.0%
No, rarely	33.0%
No, never	9.0%

Figure A.27
Is learning about digital citizenship valuable for youth and charity workers?

Youth workers

Yes, certainly	**71.0%**
Yes	28.0%
No	0.0%
No, certainly not	0.0%
I don't know	1.0%

Figure A.27
Do you think it is important to teach digital citizenship to young people?

Youth workers

Extremely important	**57.0%**
Very important	39.0%
Somewhat important	4.0%
Not so important	0.0%
Not at all important	0.0%

Table A.15 top **Statistical analysis of responses to confidence statements in pre and post surveys of youth workers who participated in the train-the-trainer model of delivery of Be Internet Citizens**
Table A.16 bottom **Statistical analysis of responses to knowledge questions in pre and post surveys of youth workers who participated in the train-the-trainer model of delivery of Be Internet Citizens**

Confidence measures	Pre mean	Post mean	Change (%)	p	Conf pre (%)	Conf post (%)	N
I am confident having sensitive conversations with young people about extremism and terrorism.	4.57	5.14	13	0.047	54	82	28
I am confident having sensitive conversations with young people about race and ethnicity.	4.96	5.57	12	0.015	68	93	28
I understand the concept of fake news.	5.29	6.11	16	0.001	75	93	28
I understand the concept of biased writing.	5.82	6.39	10	0.000	89	96	28
I understand the concept of echo chambers.	2.89	6.00	107	0.000	25	93	28
I understand the concept of filter bubbles.	2.64	5.93	124	0.000	18	93	28
I understand the concept of emotional manipulation.	5.54	6.25	13	0.001	82	96	28
I understand the concept of scapegoating.	5.21	6.14	18	0.001	75	93	28
I understand the concept of us vs. them rhetoric.	5.39	6.07	13	0.004	79	86	28
I understand the concept of hate speech.	5.64	6.29	11	0.005	86	96	28
I understand the concept of free speech.	5.86	6.11	4	0.052	93	93	28

Knowledge measures	Change (%)	p	Pre (%)	Post (%)	N
Able to define hate speech	13	0.180	85	96	27
Able to define scapegoating	12	0.083	89	100	28

Figure A.29 The extent to which youth workers enjoyed the workshop, thought content was relevant for their purposes and understood it, learned new skills, gained new knowledge, found it the right length, thought it important to teach digital citizenship to young people, found the Be Internet Citizens programme helpful for potential teachers, and were likely to deliver some or all of the programme to young people

Figure A.29
Did you enjoy the training?
Youth workers

I liked it a lot	**86.0%**
I liked it	14.0%
I neither liked nor disliked it	0.0%
I disliked it	0.0%
I disliked it a lot	0.0%

Figure A.29
How relevant do you feel the content of the workshop was to the students you work with?
Youth workers

Highly relevant	**74.0%**
Quite relevant	26.0%
Neither relevant nor irrelevant	0.0%
Quite irrelevant	0.0%
Highly irrelevant	0.0%

Figure A.29
Do you feel like you understood the content by the end of the workshop?
Youth workers

Understood everything	**60.0%**
Understood some of it	40.0%
Understood little	0.0%
Understood nothing	0.0%
I don't know	0.0%

Figure A.29
Do you feel like you learned new skills?
Youth workers

Yes, many	**55.0%**
Yes	41.0%
No	2.0%
No, not at all	0.0%
I don't know	2.0%

Figure A.29
Do you feel like you gained new knowledge?
Youth workers

Yes, lots	**57.0%**
Yes	43.0%
No	0.0%
No, not at all	0.0%
I don't know	0.0%

Figure A.29
Was the workshop the right length?
Youth workers

It was the right length	**86.0%**
It was too long	0.0%
It was too short	12.0%
I don't know	2.0%

Figure A.29
Do you think it is important to teach digital citizenship in schools?
Youth workers

Very important	**95.0%**
Important	5.0%
Slightly imporant	0.0%
Not important	0.0%
Not at all important	0.0%
I don't know	0.0%

Figure A.29
How helpful do you think the Be Internet Citizens programme is to teachers who want to teach digital citizenship?
Youth workers

Very helpful	**83.0%**
Helpful	17.0%
Not very helpful	0.0%
Unhelpful	0.0%
I don't know	0.0%

Figure A.29

How likely are you to deliver some of the Be Internet Citizens toolkit to students?

Youth workers

Very likely	**59.0%**
Quite likely	31.0%
Quite unlikely	5.0%
Very unlikely	0.0%
I don't know	5.0%

Figure A.29

How likely are you to deliver all of the sessions in the toolkits to students?

Youth workers

Quite likely	**50.0%**
Very likely	26.0%
Quite unlikely	19.0%
Very unlikely	5.0%
I don't know	0.0%

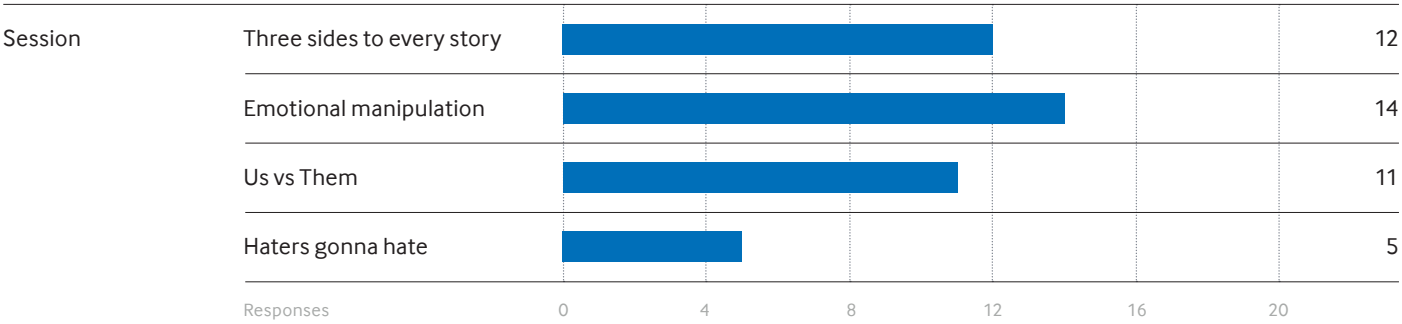
Figure A.30 The extent to which youth workers feel confident to deliver each individual session following the train-the-trainer workshop

Workshop		
Three Sides to Every Story	Very confident	19.0%
	Confident	**76.0%**
	Not very confident	5.0%
	Not confident at all	0.0%
Workshop		
Emotional manipulation	**Very confident**	**33.0%**
	Confident	62.0%
	Not very confident	5.0%
	Not confident at all	0.0%
Workshop		
Us Vs Them	**Very confident**	**36.0%**
	Confident	57.0%
	Not very confident	7.0%
	Not confident at all	0.0%
Workshop		
Haters Gonna Hate	**Very confident**	**31.0%**
	Confident	62.0%
	Not very confident	7.0%
	Not confident at all	0.0%

Figure A.31 Responses of youth workers to questions on which session would have the greatest and least impact on young people

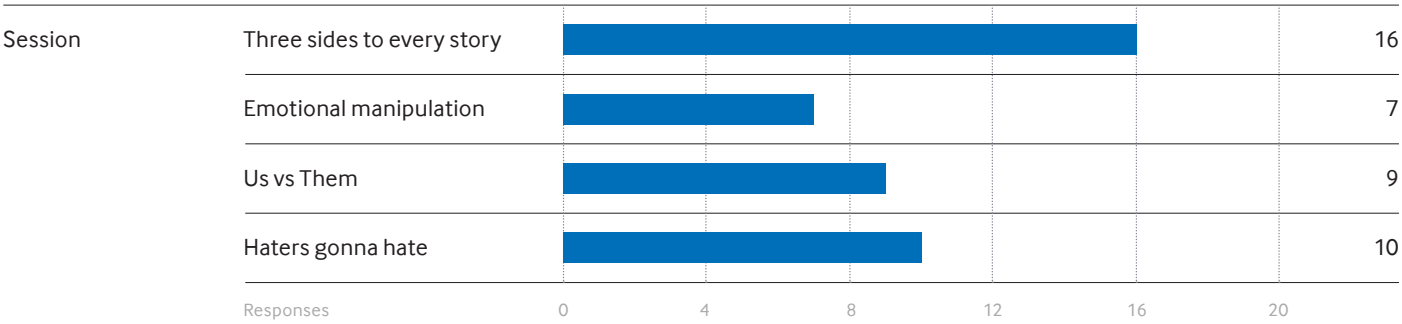
Statement

Which session do you think would have the greatest impact on students?



Statement

Which session do you think would have the least impact on students?



Endnotes

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