



# Evaluation of the ProjectEVOLVE Database

Understanding Online Safety Delivery  
and Assessment in Schools

Assessment conducted by  
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PROJECT  
**EVOLVE**

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# Executive Summary

This analysis is conducted on data collected from the ProjectEVOLVE database. ProjectEVOLVE was designed to support education professionals deliver effective online safety education and assess digital competencies across the whole school journey, informing everything from grassroots classroom activity to national policy. The platform provides teaching and learning resources (aspects) tailored to specific needs across 8 strands of online safety and digital literacy, as well as assessments (Knowledge Maps) to allow classroom teachers to assess student knowledge across these strands.

Building upon the first evaluation of ProjectEVOLVE data, published in April 2021<sup>1</sup>, this analysis considers the data collected on the platform one year on, examining the ProjectEVOLVE database from the start of March 2023. While this analysis is not intended to be a comparison of last year's results, some reflection on the growth of the platform is considered. This year, the analysis of the data shows that the platform is now used by:

- 11,923 educational establishments (an 80% increase on the previous year), incorporating 52,356 individual users in total (118% increase).
- Aspects have been viewed 676,924 times by users (168% increase), with 64 schools accessing resources over 500 times.
- 18,409 assessments (1,220% increase) have been conducted, making use of 709,252 knowledge maps (748% increase) Knowledge Maps used to assess student knowledge in the classroom and supporting their knowledge development.

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<sup>1</sup><https://swgfl.org.uk/magazine/projectevolve-launches-evaluation-report/>

## Key findings included:

- Aspects and Knowledge Maps are used a great deal in Key Stage 1 and 2, with the most significant activity in Key Stage 2. There remains a challenge to policy makers to consider how online safety and digital competencies education can be made to work in secondary settings, and how to motivate senior managers to consider its importance.
- In a number of different strands, we can now show that aspects assessed in later stages show weaker knowledge than those presented earlier. This reiterates the importance of reinforcing and developing knowledge as young people grow older.
- The most popular aspects and Knowledge Map use remains linked to media literacy and wider PSHE/RSE issues – this is encouraging and highlights the importance of relating online safety issues and digital competencies to broader topics that young people can relate to their lives. However, there is far less access and knowledge around technical aspects and those topics related to cybersecurity and privacy.
- While we see regional variation in the knowledge levels across the country, we can see that the general shape of knowledge (i.e. strength in Online Relationships and Self-Image and Identity, weakness in Security and Privacy and Managing Online Information) remains consistent.
- We would hypothesise that the lack of coverage of issues related to security and privacy highlights the lack of institutional and policy knowledge around the importance of good cybersecurity practices to keep safe online. We would once again stress the importance of good cybersecurity and privacy knowledge in developing resilience around online harms.

Nevertheless, it is clear that, one year on from the initial analysis of the platform, ProjectEVOLVE continues to have a significant impact upon a great deal of schools in the country, and its long-term use shows how important it is to support teachers in schools with resources and tools to deliver effective online safety and digital competencies knowledge across the country.



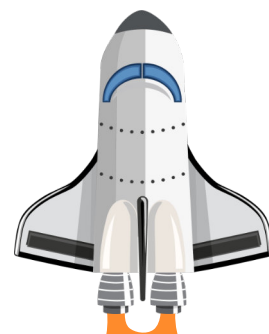
# ProjectEVOLVE

## Vision

The ecosystems children and young people experience in their online lives have evolved over the last ten years into sophisticated landscapes that require them to make complex decisions that directly impact on their wellbeing, efficacy, and life chances. Organisations like SWGfL and their peers in the online educational space have, over the years, provided many excellent resources that have reactively responded to issues as they arise and whilst we hold engagement data on resource use, we have little data on their effectiveness. Are they making a difference? More importantly, are they meeting needs?

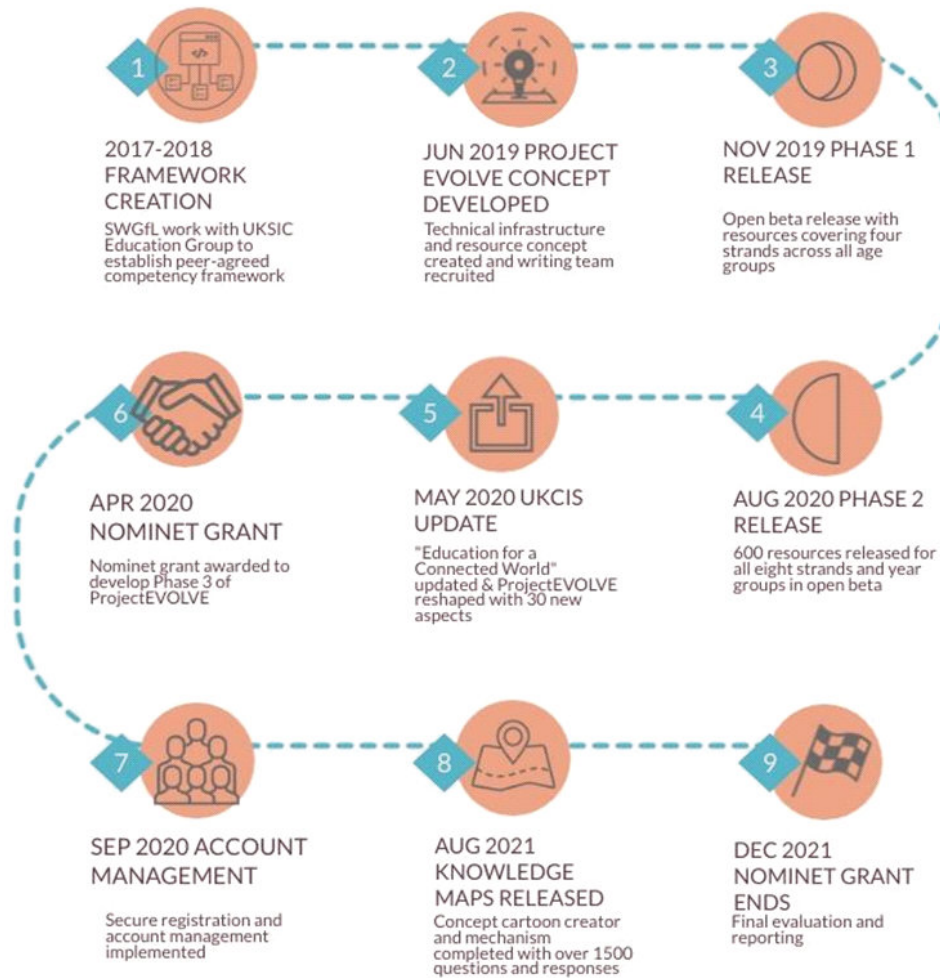
ProjectEVOLVE's overarching objectives were designed to support effective online educative practice for educators and other children's professionals by:

- Establishing a national peer-agreed framework of digital competencies that are age and context appropriate; to cover the full school age range and the expanding ecosystems in which children and young people operate.
- Develop teaching and learning resources that support these competencies and are granular; build on prior knowledge; promote dialogue; provide clear and accurate information; guide users to positive outcomes and are easy to navigate and use.
- Support children's professionals in understanding the needs of those children in their care and choose interventions that address those needs whilst at the same time reducing teacher workload.
- Use anonymised global data from users to build a sophisticated national picture of digital competency to inform emerging additional strategies.



# #ProjectEVOLVE

## DEVELOPMENT TIMELINE MILESTONES



Made with VISME

Figure 1 - ProjectEVOLVE development journey

## Framework

SWGfL is a seminal member of the UK Council for Internet Safety and worked with the UKCIS Education Group in 2017 on providing the essentials and structure of what became the national framework "Education for a Connected World". This was designed to be age-appropriate, covering eight strands that referenced all aspects of children and young people's online lives.

The horizontal progression built on prior knowledge and evolved understanding of complex issues, whilst an additional progression acknowledged the expanding online ecosystems experienced by children during their development. The first iteration of

"Education for a Connected World" was published by the Department for Culture, Media and Sport (DCMS) in February 2018 (with a further update to the framework in 2020).

Members of that group included government and peers working in online safety: Department for Education (DfE); DCMS; Barnardo's; PHSE Organisation; CEOP/NCA; Welsh Government; Scottish Government and other independent expert organisations. This collegiate approach was essential in establishing an agreed set of outcomes to which we could all work, but also established the fundamental framework on which SWGfL would build ProjectEVOLVE.

## Infrastructure

In June 2019, work began on the initial infrastructure. ProjectEVOLVE was not designed as a resource website hosting static documents. It had to:

- Allow flexible navigation to over 600 resources based on need and expertise.
- Customisable in how professionals' access and use resources.
- Give users secure access to their own data to analyse use and effectiveness.
- Allow rapid updates and reorganisation as the landscape changes.

SWGfL had begun to develop the nascent mechanisms required for ProjectEVOLVE in 2017 as part of a two-year European Commission project targeting online hate, SELMA<sup>2</sup>. The SELMA system was enhanced and scaled in June 2019 to form ProjectEVOLVE and is structured around two integrated databases.

A SWGfL custom Content Management System database that manages:

- User accounts
- Education for a Connected World content
- Supporting content
- Resource tagging and categorisation
- Knowledge Map assessments
- Concept cartoon
- Analytics
- Communications

A separate resource database that manages:

- Teaching resources
- Student resources
- Knowledge Map Avatars
- Knowledge Map questions and responses

Resources available are based around seven strands (number of "aspects", or resources, in each strand in parentheses):

- Copyright and Ownership (33);
- Health, Wellbeing & Lifestyle (40);
- Managing Online Information (73);
- Online Bullying (37);
- Online Relationships (55);
- Online Reputation (30);
- Privacy and Security (58);
- Self-Image & Identity (41)



<sup>2</sup><https://hackinghate.eu/report>

## Knowledge Maps & Assessment

A key component to ProjectEVOLVE has been the development of the Knowledge Map function – allowing the assessment of student’s knowledge about a given aspect of online safety in a user/classroom friendly approach.



Figure 2 - Example Knowledge Map

This underpinned our vision of understanding:

- How developed are children’s understanding of the concepts identified in the framework?
- How those needs can be matched to appropriate teaching and learning.
- How effective are the resources in the hands of teachers in children’s acquisition of concepts?
- How professionals can measure impact and progress.

Knowledge Map development began in June 2021 and consisted of:

- Drawing on a wide body of professional expertise including lead practitioners and their pupils in schools.
- Establishing the use of the Burch continuum.
- Writing questions that built scenarios around a concept focus for each of the 360 aspects of “Education for a Connected World” and writing 5 responses for each mapped to the Burch continuum.
- Developing the concept cartoon generator with Google Neural Voice assist.
- Building a bank of 200 age-appropriate avatars differentiated by gender; ethnicity; LGBTQ+ and SEND+ to reduce conscious bias.
- Constructing flow and mechanism for Knowledge Map creation and management.
- Constructing dashboard functionality to analyse results at a national and individual account level.

Full Knowledge Map functionality was released in September 2021.





# Evaluation of the ProjectEVOLVE Database

The following presents an analysis of data collected within the ProjectEVOLVE database, focussing upon aspects (resources) accessed and Knowledge Maps (assessments) conducted. This allows us a unique insight into the sort of online safety education being delivered in schools and the knowledge of students engaged in the learning process. Building upon the first evaluation of ProjectEVOLVE data, published in April 2022<sup>3</sup>, this analysis considers the data collected on the platform one year on, examining the ProjectEVOLVE database from the start of March 2023. While this analysis is not intended to be a comparison of last year's results, some reflection on the growth of the platform is considered.

The now established platform, and its scale of use, provides us with a unique and highly detailed picture about what aspects of online safety and digital competencies are delivered in schools in England, and the level of knowledge where this has been assessed.

We have also included data for schools across the other UK nations where the data analysis results are significant enough to form reasonable comparisons. It is worth noting that while the UKCIS framework, on which ProjectEVOLVE is based, is intended for use across all four nations, other governments have well-established frameworks within their own resource systems and may only draw on external resources if they are mapped to those frameworks.

While the previous evaluation was conducted only a few months after the launch of Knowledge Maps, this aspect of the platform is now well established and, as the numbers below show, used a great deal.

We once again acknowledge that ProjectEVOLVE is a live platform and any data analysis will, inevitably, lag behind the live picture. The data presented in this analysis is drawn from a copy of the database taken on **March 8th 2023**. We can clearly show that over the last twelve months the use of the platform has grown considerably.

The volume of data is such that we can provide a robust analysis of the delivery and assessment of online competencies on a scale impossible to conduct with surveys or case studies. As with the annual analysis of the 360 Degree Safe data<sup>4</sup>, which explores Online Safety policy and practice in schools, the volume and quality of this data means we are moving from "we think" we know what goes on in the classroom to "we know" what happens.

This is a top level analysis of the whole dataset – there is no sampling that has taken place. Further analysis of this data will be released through the year. However, this analysis provides the top level data around what is being delivered in schools, at what level, what is assessed, and the level of knowledge based upon this assessment.

The ProjectEVOLVE platform stores data in a large MySQL industry standard database and, as such, the majority of the analysis is performed running SQL queries against the data. Some subsequent statistical analysis and chart production is then conducted using Microsoft Excel in order to present the data in a more accessible format.



<sup>3</sup><https://swgfl.org.uk/magazine/projectevolve-launches-evaluation-report>

<sup>4</sup><https://swgfl.org.uk/magazine/annual-uk-schools-online-safety-policy-and-practice-report-2021-has-been-released>



As with last year's evaluation, these basic statistics show that a lot of schools use ProjectEVOLVE, and for those who do use it, many use it a great deal.

This is illustrated further if we look at the Aspects viewed across the platform:

	March 2022	March 2023
Aspect views	252,680	676,924
Average number of aspects per account	52.1	25.1
Accounts accessing more than 100	576	1,347
Accounts accessing more than 500	54	64

Table 2 - Aspect views across the ProjectEVOLVE platform

We can broadly analogise an aspect to a teaching resource. While this does not specifically mean that the aspect was used to deliver a specific classroom lesson, it gives us a clear indication of the sort of topics teachers are interested in and planning to teach (and we gain even more clarity with delivery in the classroom when exploring assessment data). As can be seen from the above statistics, there have been a lot of aspects accessed across the platform, in total over 670,000 views, a 168% increase on last year's analysis. On average, just over 25 aspects have been accessed per account (school). However, some make far greater use of the platform, with over 1,347 schools accessing more than 100 and 64 accessing aspects over 500 times. A more detailed analysis of the sort of aspects access, and by whom, is provided in the following section.

Finally, we can see significant increase in the use of Knowledge Maps, which is to be expected given it was only recently established and launched with the previous evaluation:

	March 2022	March 2023
Total number of assessments	1,367	18,409
Total number of knowledge maps delivered	83,667	709,252
Minimum knowledge maps per assessment	1	1
Maximum knowledge maps per assessment	726	1,925
Mean knowledge maps per assessment	61.2	51.2

Table 3 - Knowledge map use across the ProjectEVOLVE platform

A class teacher can set up an assessment which will incorporate a number of Knowledge Map elements. Knowledge Maps will cover a short assessment (as illustrated above) for a particular aspect, and can be carried out individually by each student ("independent" Knowledge Map) or as a classroom activity ("guided" Knowledge Map). As we will explore in more detail below, the majority of Knowledge Maps are delivered for independent assessment, and this accounts for the volume of Knowledge Maps delivered. We will also explore student knowledge as a result of their responses to Knowledge Maps in a later section of this report but what these top level statistics show is the large increase in take up of Knowledge Maps (1,220% increase on assessments and 748% increase in total knowledge maps accesses compared to last year) since their launch in September 2021.



# Analysis of Aspect Usage

As discussed above, each aspect in the platform is categorised against a strand, or theme, that relates to online safety and wider digital literacy. Figure 3 shows the nature of the aspects accessed across the whole platform, and compares access this year compared to the same time in 2022. We can see considerable growth in use over this time, and a similar pattern to use – Online Relationships and Self-Image and Identity continue to be the most popular strands with significant increases in resource views in these areas.

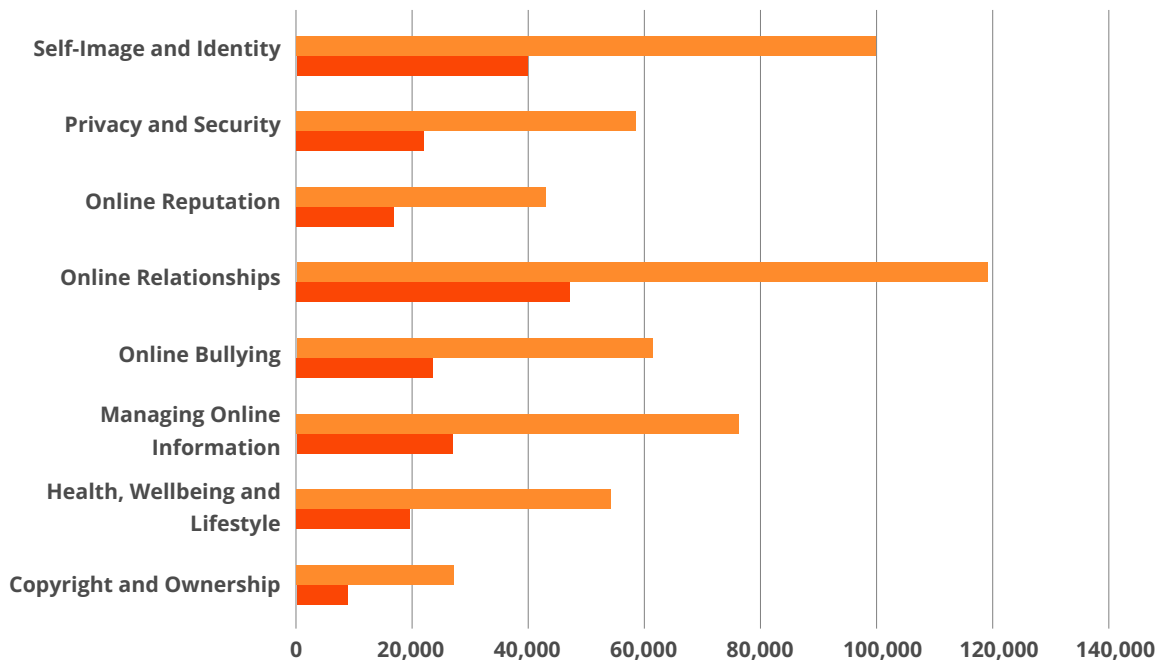


Figure 3 – Number of aspect views per strand



Aspects, being classroom resources, are also categorised against Key Stages, which allows us to examine where at what age range lessons related to online safety and digital competencies are delivered. From the data summaries in Figure 4 below, we can see that there is a very clear focus on delivery in Key Stages 1 and 2, where far more resources are accessed than in secondary schools:

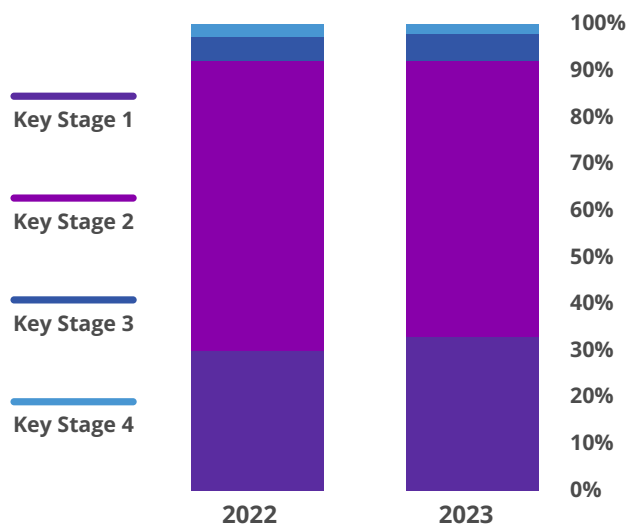


Figure 4 - Percentage of aspect views per phase



We can see that the majority of teaching with ProjectEVOLVE happens in primary schools, with by far the biggest proportion being in Key Stage 2. There is a significant tailing off of aspect use in secondary schools. As with last years analysis, the data above cannot show use that there is no teaching of online safety and digital competencies in secondary schools, because there are other resources that might be being used in those settings. However, it does show very clearly that ProjectEVOLVE is used far more in Key Stages 1 and 2, and there seems to be no clear research why, should these topics be being delivered in secondary schools, that ProjectEVOLVE would not similarly provide resources.

In exploring the focus on aspect use across phases, we can break down strand types in different phases:

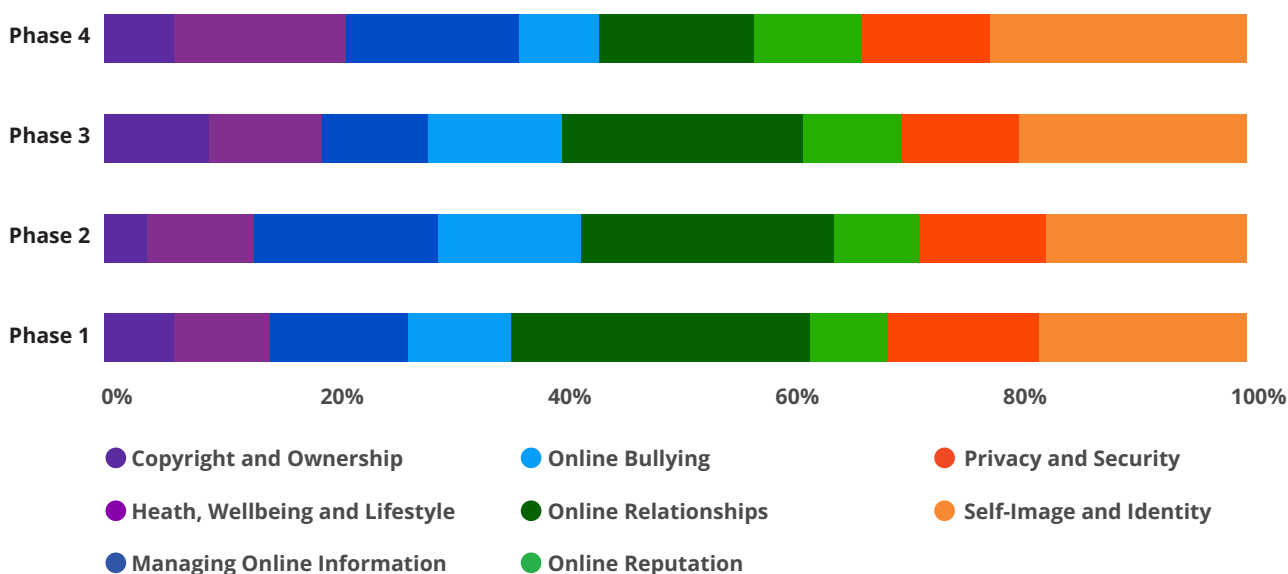


Figure 5 - Aspect strands per phase



While it is impossible to conduct a like for like comparison, given the difference in volume of delivery in secondary schools compared to primaries, we can proportionally explore the nature of the topics delivered in each Key Stage and can see that there is some variation, with Online Relationships coverage reducing across the Key Stages, whereas Self-Image and Identity increases slightly. We can also see more about Online Reputation being delivered in later Key Stages, and an increase in the consideration of the more technical Copyright and Ownership. However, there are only a few percentage points different in most cases, the pattern of the data remains consistent aside from Online Relationships.

ProjectEVOLVE is used across the whole of England, Figure 6 details the proportion of accounts in each region.

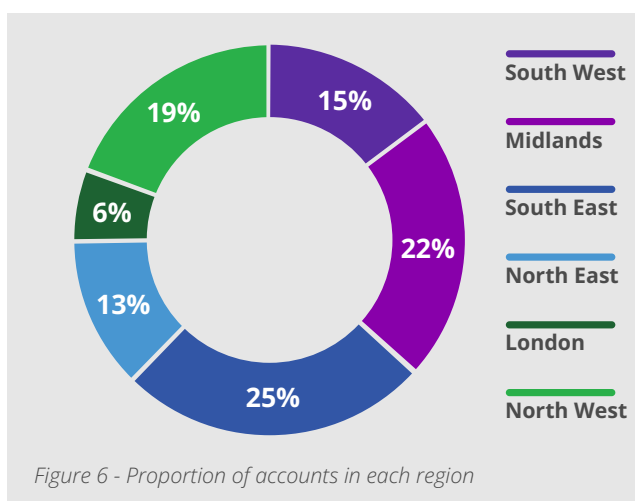


Figure 6 - Proportion of accounts in each region

Figure 7 provides a breakdown of regional variation based upon strands accessed. While it is difficult to draw conclusions from this data, it does at least show how there is regional variation and allows us to evidence this which might lead to further policy explorations around regional specifics.

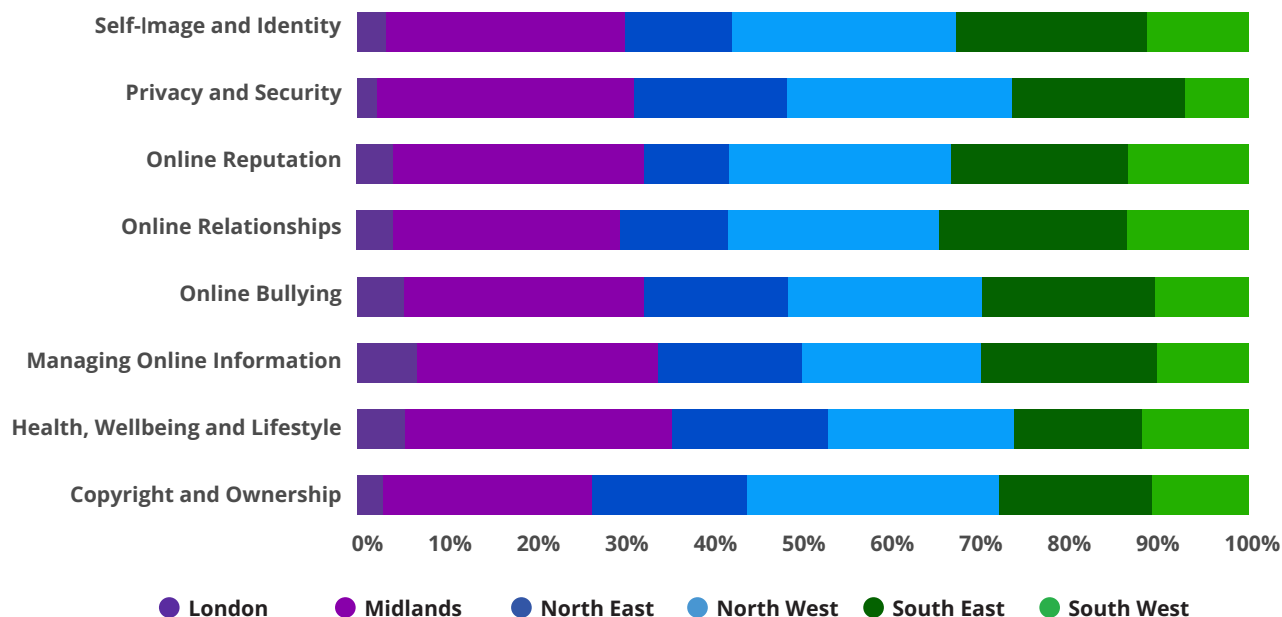


Figure 7 - Regional variation of strands accessed

Finally, when considering the findings from the analysis of aspect views and how we might interpret these as things the classroom teacher chooses to deliver, because they either see it as important or it is a topic with which they are comfortable delivering. Given the focus on Online Relationships and Self-Image and Identity illustrated above, it is no surprise that the “top ten” most viewed aspects all relate to these areas:

I can recognise, online or offline, that anyone can say 'no', 'please stop', 'I'll tell', 'I'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset.	8,711
I can recognise that there may be people online who could make someone feel sad, embarrassed or upset.	8,065
I can explain what is meant by the term 'identity'.	7,926
I can explain how identity online can be copied, modified or altered.	7,627
I can explain how my online identity can be different to my offline identity.	6,993
I can give examples of when I should ask permission to do something online and explain why this is important.	6,147
I can explain how other people may look and act differently online and offline.	6,143
I can identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online.	6,004
I can describe strategies for safe and fun experiences in a range of online social environments (e.g. livestreaming, gaming platforms).	5,647
I can demonstrate how to make responsible choices about having an online identity, depending on context.	5,383

Table 4 - Most popular aspects viewed

Once again we can see a clear focus here around identity and relationships – eight of these aspects are from the Self-Image and Identity strand and two are from Online Relationships. Given the proportion of delivery that takes place in primary school, we should perhaps not be too surprised by this. However, it is a very clear illustration that the focus of aspect views (and subsequent delivery) lies in how digital impacts upon young people’s lives, and how they understand online interactions, rather than the more extreme aspects of online harm and technical aspects of digital competencies.

If we consider those that have been accessed the fewest times:

I can explain the term, 'whistleblowing' and evaluate when such action may be appropriate or inappropriate.	40
I can assess how those laws can vary depending on country and can give examples of some of the differences and issues that may raise.	43
I can explain the value of regular data backup in system recovery, and can give examples of and demonstrate effective practice in how this might be achieved (e.g. removable media, cloud).	46
I can explain why networks require secure management and can give examples of services that support this (e.g. firewalls, VPN, user monitoring).	50
I can analyse online material to identify when this is happening and who might benefit.	51
I can describe key aspects of the law governing data use (e.g. DPA, GDPR) and can give examples of those laws and the impact they have on a person’s data rights (e.g. RTBF, data breaches).	55
I can describe anonymous access services (e.g. TOR, Guerrilla Mail, DuckDuckGo) and can give examples of how they may be used in both positive and negative contexts.	56
I can identify and assess when data needs to be transferred securely and can describe strategies to achieve this (e.g. encryption, secure services).	58
I can explain the wider implications of copyright theft on content production and the availability of content (e.g. loss of revenue, emerging artists, new content development).	60
I can describe ways people can assess and manage how and what they contribute to 'big data'.	60

Table 5 - Aspects accessed the fewest times

We can see that these tend to be more technical in nature (seven from the Privacy and Security strand and three are from Managing Online Information), and cover more complex topics such as disinformation, whistleblowing and other legal issues. We can also see that a number relate to technical measures an individual can take to manage their privacy. We would strongly argue that an individual with good technical knowledge of how to manage their online identities and lives is more likely to be resilient and manage risk more effectively. However, we can see very clearly that these are not areas of priority in classrooms in England. Nevertheless, it is encouraging to note that all aspects have been accessed to some degree – there is no learning resource in the ProjectEVOLVE platform that has never been used.



# Assessment/Knowledge Maps

The second part of the data analysis centres upon the Knowledge Maps – where they are delivered, what topics are covered, and the average knowledge scores in each map. The volume of data related to Knowledge Maps in this years analysis is far larger than previously, which allows us to have a more confident interpretation of the results to more clearly show the “state of the nation” for knowledge around topics assessed. It should be stressed that, as with aspects above, the data collected can only ever be based upon topics the class teacher has chosen to either deliver or assess. Therefore, there is as much to interpret in terms of teaching priorities than comprehensive knowledge evaluation – we cannot assess what teachers choose not to assess.

However, that is not to say this is not a wealth of data which provides us with a unique insight into what is being delivered in English schools and the levels of knowledge. To reiterate, for any given Knowledge Map, a pupil (independent knowledge map) or class (guided Knowledge Map) is given five choices, varying in appropriateness of response and scored between 1 (the worst) and 5 (the best). This allows us to gain a good understand of knowledge levels in classes. Therefore, considering statistics based upon Knowledge Maps is an excellent indicator of what is being assessed across the online safety subject, and what the levels of understanding of these topics are.

As with aspect views, by far the largest use of Knowledge Maps is in Phase/KS2. This is particularly interesting to note given the large increase in Knowledge Map use over the last twelve months. This would suggest that this is a general pattern of use with Knowledge Maps – while there has been an increase in use in Key Stage 1 with the greater take up, the proportion in Key Stage 3 and 4 has changed very little.

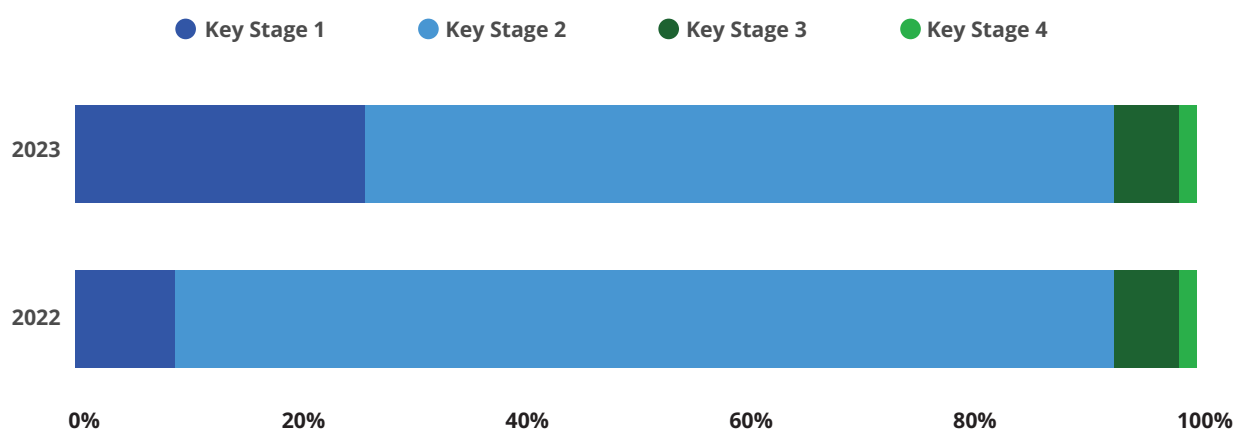


Figure 8 - Knowledge Map use across phases



If we consider volume of Knowledge Maps, rather than proportions we can see that there is significant growth in Key Stage 1, but less so in other Key Stages:

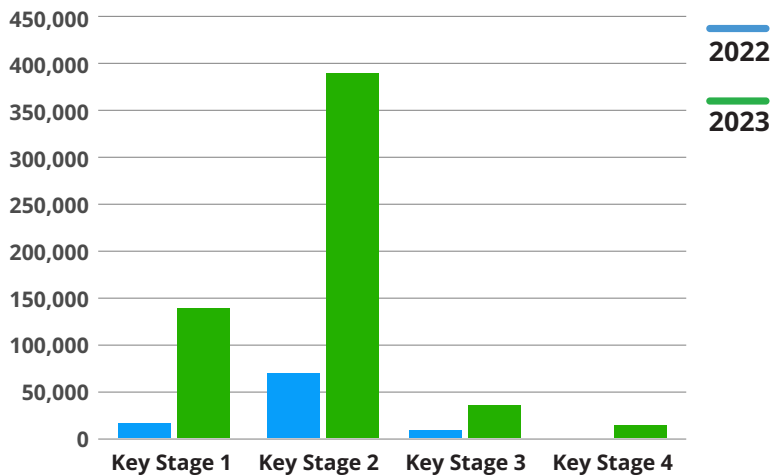


Figure 9 - Number of knowledge maps per Key Stage

And we can see the significance of change in Table 6.

	% change
Phase 1	1,822
Phase 2	448
Phase 3	525
Phase 4	530

Table 6 - Percentage increase in Knowledge Map use per Key Stage

- Put simply, there has been significant increase in all Key Stages, but Key Stage 1 use has grown the most.
- As stated above, for each Knowledge Map there are five answers, scored between 1 (worst response) and 5 (best response). By averaging scores across different Knowledge Maps and across the database as a whole, we can assess the knowledge of those who have conducted the assessments.
- Across all Knowledge Maps carried out in the database (709,252 Knowledge Maps), the average score is 3.6 (a slight increase from 3.56 last year). Showing a good level of knowledge across the topics as a whole.

If we break this down per strand, we can see that there is some variation:

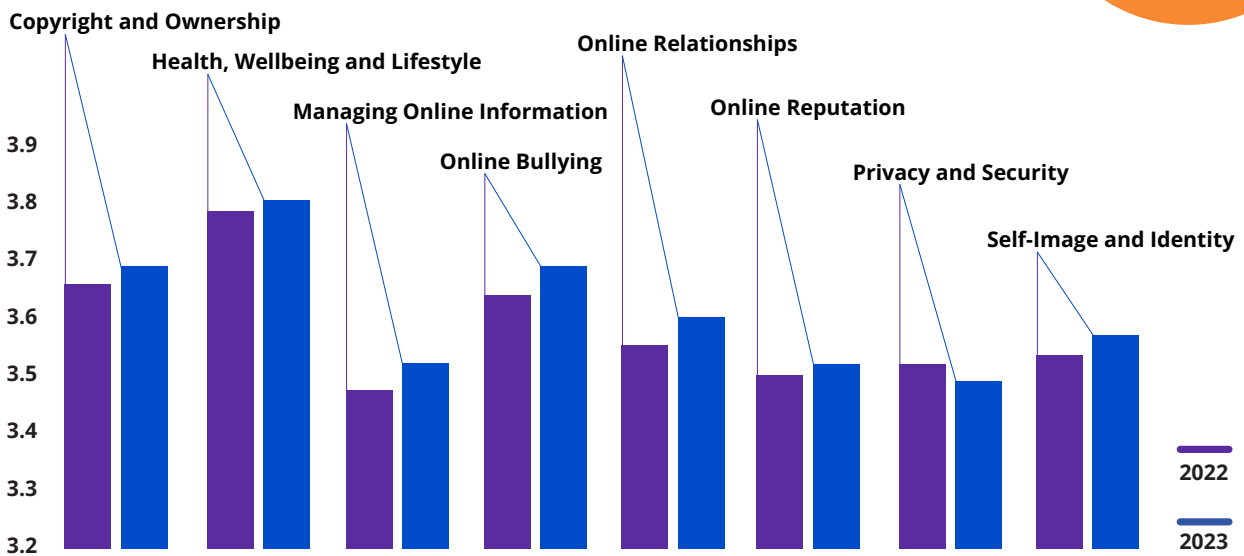


Figure 10 – Average knowledge map score per strand

With knowledge around Health and Wellbeing, Copyright and Online Bullying being strongest and Managing Online Information the weakest strand, we can also see that the average score for knowledge around Privacy and Security has reduced when compared to last year’s average. We can consider the standard deviation across knowledge maps per strand to determine the variation away from the mean in each strand:

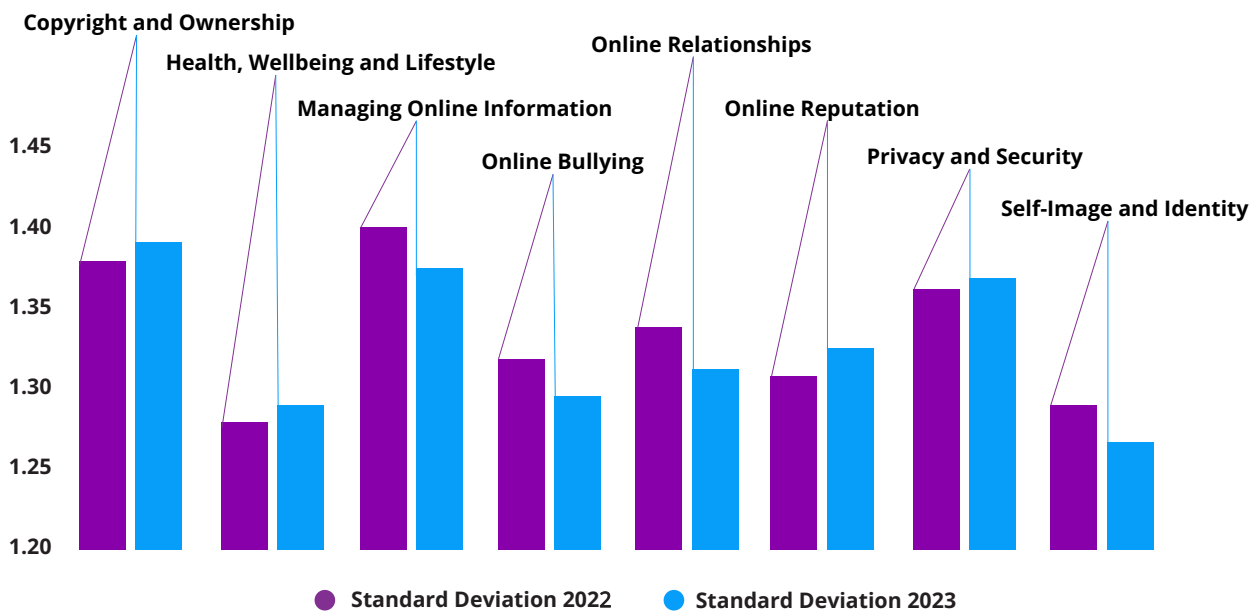


Figure 11 - Standard deviation of Knowledge Maps per strand

So while Managing Online Information might have the weakest average, it also has the greatest variation of response, although this has reduced compared to last years evaluation. We can also see that the highest scoring strand, Health and Wellbeing, continues to have one of the narrowest standard deviations, along with Self-Image and Identity – showing that knowledge is consistently strong with the strand.

Moving away from year-on-year comparisons, and considering only this year's data, we can break down the proportion of responses per level, per strand (i.e. the number of answers at level 1, 2, etc.):

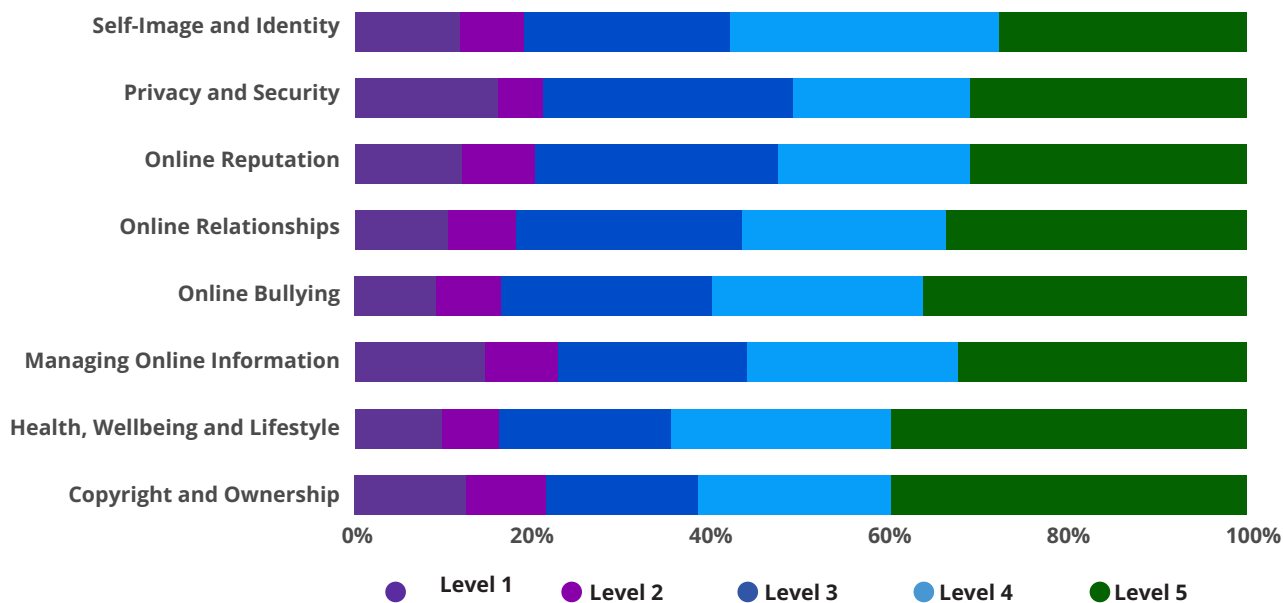


Figure 12 - Proportion of responses per level, per strand

Which shows that while generally knowledge levels are good, there is still a significant number of responses that are in the lower categories with scope for improvement of knowledge.

If we consider knowledge averages across Key Stages, we would expect to see an increase in knowledge as young people get older. And while we would not present this data as definitive, given we are comparing significantly more data in Key Stages 1 and 2, we can see that in a lot of cases there is not consistent growth in knowledge. This further raises concerns about the lack of coverage of this subject in later school stages.

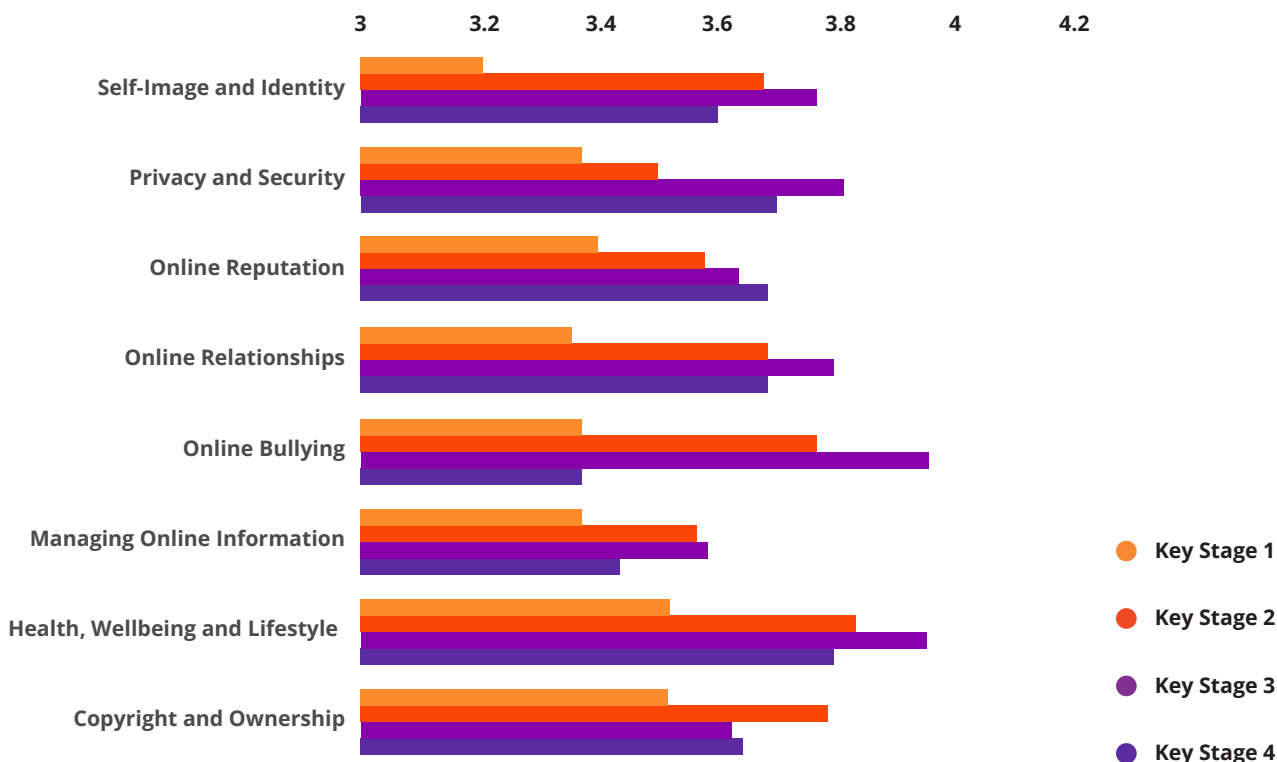


Figure 13 - Knowledge improvement across Key Stages per strand

We can also see more difference in the types of assessment at different Key Stages:

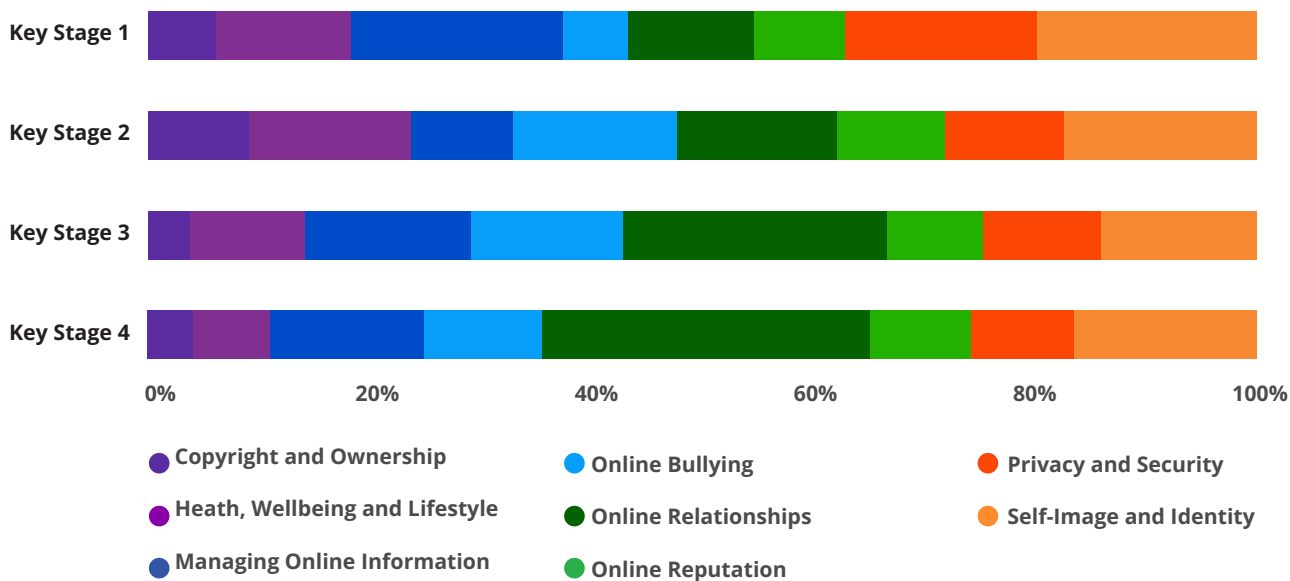


Figure 14 – Coverage of knowledge maps per Key Stage

With Online Relationships assessed far more in primary school, and a large growth in Health and Wellbeing, Self-Image and Privacy and Security in later Key Stages, as well as a significant reduction in Online Bullying coverage in Key Stage 4.

With Knowledge Maps, we can also see some regional variation:

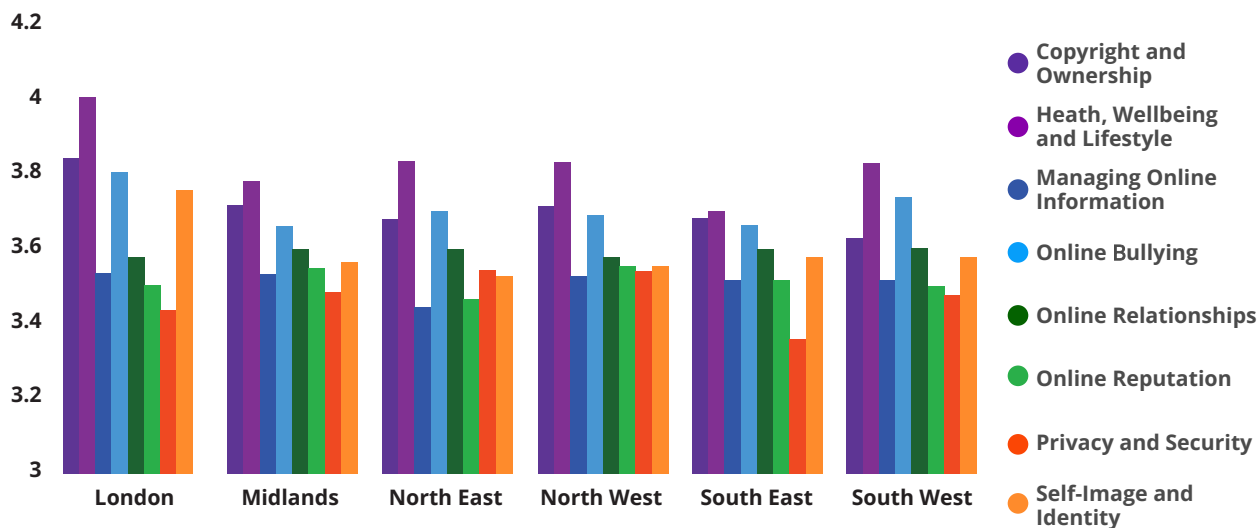


Figure 15 – Regional variation of knowledge across topics

However, while there is some regional variation there is some consistency of shape to the data – stronger in Online Relationships and Health, Wellbeing and Lifestyle, with a general weakness around Privacy and Security. Managing Online Information is also fairly weak compared to other strands in all regions.

In focussing on specific Knowledge Maps to see the “popularity” of different topics, we can determine how often a specific Knowledge Map has been chosen for assessment. Again, as with our analysis of aspects, this shows both the most popular Knowledge Maps but also those a teacher is more likely to choose to assess. Again, it is no surprise to see these assessments in Online Relationships and Self-Image and Identity on the whole, and marry up with the more popular aspects being delivered in general.

I can describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs.	<b>8,534</b>
I can describe how to be kind and show respect for others online including the importance of respecting boundaries regarding what is shared about them online and how to support them if others do not.	<b>8,480</b>
I can explain that taking or sharing inappropriate images of someone (e.g. embarrassing images), even if they say it is okay, may have an impact for the sharer and others; and who can help if someone is worried about this.	<b>8,446</b>
I can explain how sharing something online may have an impact either positively or negatively.	<b>8,204</b>
I can describe strategies for safe and fun experiences in a range of online social environments (e.g. livestreaming, gaming platforms).	<b>7,636</b>
I can demonstrate how to support others (including those who are having difficulties) online.	<b>7,612</b>
I can give examples of technology-specific forms of communication (e.g. emojis, memes and GIFs).	<b>7,595</b>
I can explain how content shared online may feel unimportant to one person but may be important to other people's thoughts feelings and beliefs.	<b>7,584</b>
I can explain how someone can get help if they are having problems and identify when to tell a trusted adult.	<b>7,560</b>
I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours.	<b>7,452</b>

Table 7 - Most popular aspects

As with "unpopular" aspects, we can also see Knowledge Maps used the least relate to technical areas, law and copyright issues. Again, this is not surprising given that these are some of the least used aspects that are delivered in the classroom.

I can give examples of how organisations representing creative industries challenge and monitor online copyright theft and can outline and evaluate resulting outcomes.	<b>30</b>
I can analyse and identify opportunities and risks that may arise from technologies (e.g. virtual reality, augmented reality, artificial intelligence, including deep learning) that could impact on health and wellbeing.	<b>30</b>
I can describe and assess the benefits of the laws that govern online behaviour and reputation.	<b>27</b>
I can use my own media research to give relevant examples.	<b>26</b>
I can differentiate between ethical and legal issues (e.g. libel, slander, racism, homophobia, injunction, trolling).	<b>25</b>
I can say how those rules / guides can help anyone accessing online technologies.	<b>18</b>
I can say why it belongs to me (e.g. 'designed it' or 'filmed it').	<b>8</b>
I can describe why other people's work belongs to them.	<b>5</b>
I can give examples of how I (might) use technology to communicate with people I know.	<b>1</b>
I can identify devices I could use to access information on the internet.	<b>1</b>

Table 8 - Least popular aspects

In considering average scores per aspect, there is a great deal of variation, with some very close to 5, showing a very high proportion of responses being strongest, to those where averages are far lower, showing a far greater variation of response. However, in some cases these high scoring aspects are being assessed a lot, but for the majority of the highest rated Knowledge Maps, there are far fewer assessments being made. For example, a technical aspect such as “I know who people can report to if they have experienced a cyber problem (e.g. identity theft, ransomware)” has a high average, but it has only been used a few times (200), compared to some others which have been delivered many thousands of times.

I can give examples of how the internet and social media can be used for positive self-promotion.	<b>4.6089</b>	<b>473</b>
I can describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me.	<b>4.5875</b>	<b>5,666</b>
I can assess and action different strategies to limit the impact of technology on health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise).	<b>4.4396</b>	<b>4,017</b>
I can describe how messages online portraying 'identity ideals' can inhibit someone from being themselves online or sharing things openly.	<b>4.3986</b>	<b>434</b>
I know who people can report to if they have experienced a cyber problem (e.g. identity theft, ransomware).	<b>4.35</b>	<b>200</b>
I can explain why online services have terms and conditions that govern their use and give examples that illustrate how they impact on a user e.g. age restrictions.	<b>4.3429</b>	<b>175</b>
I can analyse wellbeing issues experienced by others in the wider news from my own online research and construct strategies that may have assisted with those cases I have identified.	<b>4.3429</b>	<b>35</b>
I can contribute to an informed debate concerning the balance between national security and safeguarding as against personal privacy.	<b>4.3209</b>	<b>215</b>
I can explain that hacking can have legal consequences.	<b>4.3208</b>	<b>212</b>
I know how to report content which is promoting unhealthy or harmful behaviour.	<b>4.3021</b>	<b>288</b>

Table 9 - Strongest performing aspects

Whereas the weakest aspects centre generally on more complex topics but are also some which have been used a great deal.

I can give examples of technology-specific forms of communication (e.g. emojis, memes and GIFs).	<b>4.6089</b>	<b>473</b>
I can describe strategies for keeping personal information private, depending on context.	<b>4.5875</b>	<b>5,666</b>
I can assess how those laws can vary depending on country and can give examples of some of the and issues thdifferencesat may raise.	<b>4.4396</b>	<b>4,017</b>
I understand Creative Commons Licensing protocols.	<b>4.3986</b>	<b>434</b>
I can explain what app permissions are and can give some examples.	<b>4.35</b>	<b>200</b>
I can describe why other people's work belongs to them.	<b>4.3429</b>	<b>175</b>
I can describe ways people who have similar likes and interests can get together online.	<b>4.3429</b>	<b>35</b>
I can assess the benefits and limitations of online commerce.	<b>4.3209</b>	<b>215</b>
I can say why it belongs to me (e.g. 'I designed it' or 'I filmed it').	<b>4.3208</b>	<b>212</b>
I can give examples of how I (might) use technology to communicate with people I know.	<b>4.3021</b>	<b>288</b>

Table 10 - Weakest performing aspects

A final point of consideration is the difference between Guided (i.e. whole class) and Independent (i.e. individual) uses of Knowledge Maps, which are illustrated in the graphs below. We would anticipate that guided assessments would be lower, given that these would be teacher lead and possibly relate to either younger children or new topics. This assumption is certainly borne out in the data:

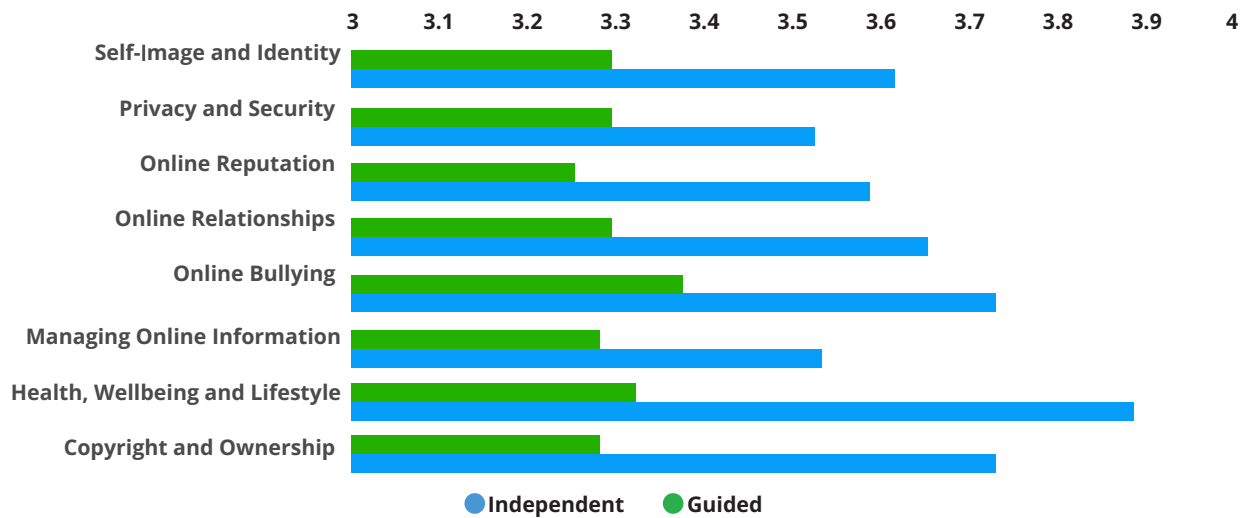


Figure 16 - Average scores per strand comparing Independent and Guided assessments

However, this is less the case as guided assessments are used in later Key Stages:

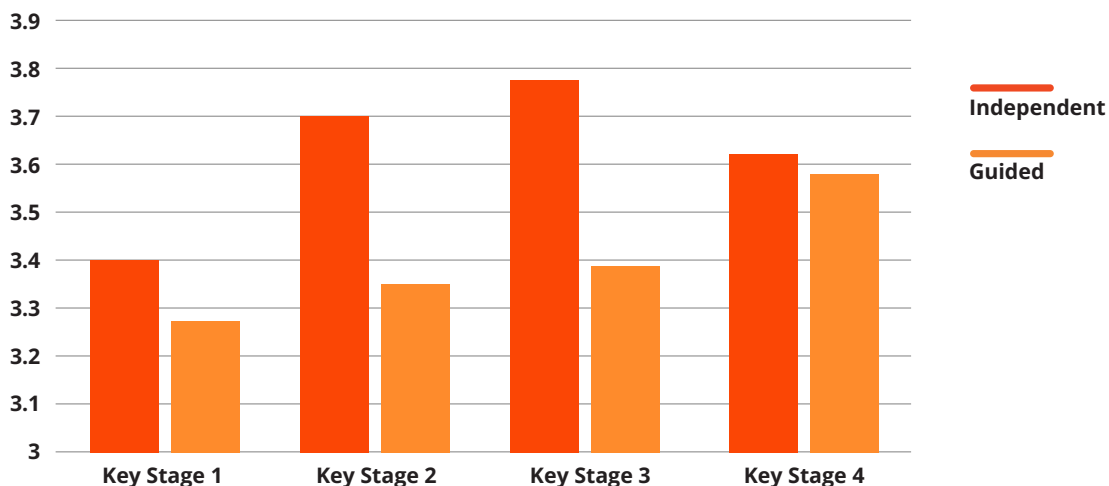


Figure 17- Independent and guided averages per Key Stage

However, it should be noted (as illustrated in Figure 18) that guided assessments are used far more in earlier Key Stages, so the data in later stages can not be considered to be as reliable.

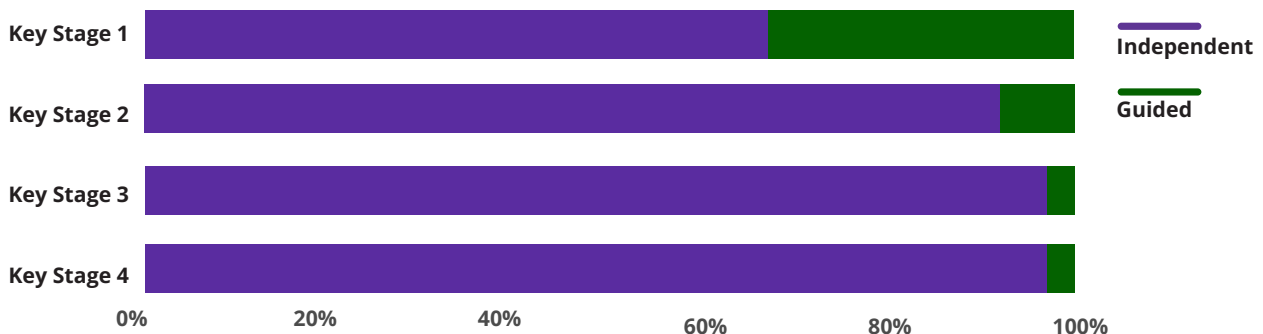


Figure 18 - Proportion of Guided vs Independent assessments per phase

## Conclusions and Implications

In this second review of the data from the ProjectEVOLVE platform, we can see that use has increased significantly since the previous year. Particular Knowledge Maps, which had only recently been released in the previous evaluation, are well established and have been used in far greater volumes than previously. Almost half of the schools in England now have a ProjectEVOLVE account, and some have many users in their schools using the platform. This allows us a unique picture regarding the nature of digital competency and online safety education in the country, and highlights, at some stages, how important the topic is considered. Overall, we can see a great deal of education being delivered in Key Stages 1 and 2, across a broad range of topics. However, as we identified last year, this does drop off significantly in secondary schools.

There are a number of key findings to consider:

Aspects and Knowledge Maps are used a great deal in Key Stage 1 and 2, with the most significant activity in Key Stage 2. However, it is very clear from this analysis that there is a fraction of the activity in primary schools taking place in secondary settings. There remains a challenge for policy makers to consider how online safety and digital competencies education can be made to work in secondary settings, and how to motivate senior managers to consider its importance. While we would argue that laying the foundation for digital competencies and resilience is crucial in primary settings, the risks and knowledge needed to mitigate them increases as young people get older and it is not enough to assume they are equipped with the knowledge from primary school.

- In several strands, we can now show that aspects assessed in later stages show weaker knowledge than those presented earlier. This reiterates the importance of reinforcing and developing knowledge as young people grow older.
- The most popular aspects and Knowledge Map use remains linked to media literacy and wider PSHE/RSE issues – this is encouraging and highlights the importance of relating online safety issues and digital competencies to broader topics that young people can relate to their lives. However, there is far less access and knowledge around technical aspects and those topics related to cybersecurity and privacy. As we have discussed in this report, while we have a wealth of data related to what is delivered and assessed in the classroom, what the platform can not answer is why these topics are more popular – we might hypothesise that these topics are more popular because teaching staff are more comfortable with them.



- While we see regional variation in the knowledge levels across the country, we can see that the general shape of knowledge (i.e. strength in Online Relationships and Self-Image and Identity, weakness in Security and Privacy and Managing Online Information) remains consistent.
- We would hypothesise that the lack of coverage of issues related to security and privacy highlights the lack of institutional and policy knowledge around the importance of good cybersecurity practices to keep safe online. We would once again stress the importance of good cybersecurity and privacy knowledge in developing resilience around online harms. There are techniques and knowledge that can be applied to mitigate risk if young people are aware of them; With some knowledge maps, while not used a great deal, when security and privacy knowledge is developed, it can be strong.

Nevertheless, it is clear that, one year on from the initial analysis of the platform, ProjectEVOLVE continues to have a significant impact upon a great deal of schools in the country, and its long-term use shows how important it is to support teacher in schools with resources and tools to deliver effective online safety and digital competencies knowledge across the country.