# ProjectEVOLVE

Evaluation of the ProjectEVOLVE Database – Understanding Online Safety Delivery and Assessment in Schools

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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 grass roots classroom activity to national policy. The platform provides teaching and learning resources (aspects) tailored to specific need across 8 strands of online safety and digital literacy, and assessments (Knowledge Maps) to allow classroom teachers to assess student knowledge across these strands.

This analysis is the first of its kind, considering the ProjectEVOLVE database from the start of March 2022, drawing from use of the platform by:

6,617 educational establishments, incorporating 24,148 individual users in total. Aspects viewed 252,680 times by users, with some schools viewing resources over 500 times. 83,667 Knowledge Maps used to assess student knowledge in the classroom and supporting their knowledge development.

#### Key findings included:

- The vast majority of activity around online safety education using the platform happens in Phase 2 (KS2) and activity drops off considerably in secondary. There is a challenge in the sector to consider how online safety education can be made to work in secondary settings, and now to motivate senior managers to consider its importance.
- For those in secondary settings making use of Knowledge Maps, we know that knowledge of secondary aged students is generally better. However, we also know that those more complex issues, and those that might relate to risk mitigation when tackling online harms (for example between cybersecurity practices) are not used well across the platform.
- The most popular aspects, and also Knowledge Map use, links media literacy to wider PSHE/RSE issues this is encouraging and highlights the need to connect online safety issues 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.
  - If we consider the most "popular" aspects and use of Knowledge Maps, we can see that the focus of delivery lies with online relationships and identity. This illustrates the importance of recognising online issues as something that arises as part of peer to peer interactions, and harm reduction cannot readily be addressed with automated tools and platform takedowns.

However, perhaps the most significant finding is the scale of use of the platform by schools, as described above. ProjectEVOLVE is unquestionably providing tools and resources that education professionals value and see as important. Its growth will give us unique knowledge about how online safety education is delivered in schools and how digital competencies are assessed.

## **ProjectEVOLVE** Vision

The ecosystems children and young people experience in their online lives evolved over the last ten years into sophisticated landscapes that require them to make complex decisions which 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 need?

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; cover the full school age range and the expanding ecosystems in which children and young people find themselves.

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.



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".<sup>1</sup>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 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: DfE; DCMS; Barnados; PHSE Organisation; CEOP/NCA; Welsh Govt; 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.

<sup>1</sup> https://www.gov.uk/government/publications/education-for-a-connected-world

## Infrastructure

Allow flexible navigation to over In June 2019, work began on the initial infrastructure. ProjectEVOLVE 600 resources based on need and was not designed as a resource expertise website hosting static documents. Customisable in how professionals It had to: \_\_\_\_ access and use resources SWGfL had begun to develop the Give users secure access to their nascent mechanisms required for own data to analyse use and ProjectEVOLVE in 2017 as part of a effectiveness two year European Commission project targeting online hate, Allow rapid updates and SELMA.<sup>2</sup>The SELMA system was reorganisation as the landscape enhanced and scaled in June 2019 changes to form ProjectEVOLVE and is structured around two integrated databases. A SWGfL custom CMS database User accounts that manages: \_ **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



### **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



6.

# 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. As stated above, the fully functioning Knowledge Map functionality was made available in September 2021. Therefore, this analysis provides us with a first look at the sort of assessments being conducted and we would anticipate that this data will increase greatly over the next few months. Take up has already been rapid and we would expect this momentum to be at least maintained if not accelerated.

If should be noted 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 2022. We know that the platform continues to grow and this analysis will be the first of its kind that will become an annual report exploring data collected on the platform.

What this analysis also shows is the potential of what we can draw from this data, which presents a unique view of what is being taught in schools across the country in a manner that would be impossible with traditional techniques such as survey or observations. 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.

Analysis is based upon the database as a whole as of March 8th 2022. It is not a sample or case analysis, it analyses data across the whole platform. 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. Summary findings presented here are based upon the results of this querying of the whole database.

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

## **Core Statistics**

This analysis is based up the following:



Any school in the country can sign up for an account to use ProjectEVOLVE. Currently there are over six and a half thousand schools using it and that number continues to grow. A school can have more than one "user", representing the platform being used by multiple staff across the institutions. As can be seen above, almost 25,000 unique users are enrolled on the platform. On average, each account has 3.6 users, meaning that between three and four staff are using the platform. However, a lot of schools use the platform far more, with almost 700 accounts having more than ten users.

More simply, ProjectEVOLVE is used by a lot of schools, and for those who do use it, many use it a great deal.

This is more clearly illustrated if we look at the Aspects viewed across the 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 class, it gives us a clear indication of the sort of topics teachers are interested in and planning to teach (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 a quarter of a million aspect views. On average, just over 50 aspects have been accessed per account (school). However, some make far greater use of the platform, with almost 600 schools accessing more than 100 and 54 accessing aspects over 500 times. Clearly there is a need for the sort of resources ProjectEVOLVE provides and teachers make great use of the platform. A more detailed analysis of the sort of aspects access, and by whom, is provided in the following section.

Finally, the newest part of the platform, Knowledge Maps, which has been available since September 2021, is already seeing good use by schools:



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 explore student knowledge as a result of their responses to Knowledge Maps in a later section of this report. However, the core statistics show how widely they are already used and, as we have already stated above, we would anticipate that while Knowledge Maps are a new feature for ProjectEVOLVE, they are already being used a lot.

#### **Analysis of Aspect Usage**

As discussed above, each aspect (resource) in the platform is categorised against a strand, or theme, that relates to online safety and wider digital literacy. As we can see below, a graph which details total number of views per strand, the two that are the most popular relate to Self-image and identity, and Online relationships. We will explore why this might be the case below, however, it is interesting to note the focus on digital technology as part of wider life and social issues.



Figure 3 - Number of aspect views per strand

Aspects, being classroom resources, as also categories in different Phases, which align closely with Key Stages:

Phase 1 – Early years and years 1-2
Phase 2 – Years 3-6
Phase 3 – Years 7-9
Phase 4 – Years 10 and onwards

By exploring aspect access based upon Phase, we can see where online safety education is being delivered and whether there is a specific focus around a Key Stage. As we can see below this is certainly the case:



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 (Phase) 2. There is a significant tailing off of aspect use in secondary schools. While we cannot conclude from this that no online safety education is being delivered in secondary settings, because there are other resources available other than those in ProjectEVOLVE, it does indicate that online safety education might become less of a concern in these settings.

In exploring the focus on aspect use across Phases, we can break down strand types in different Phases, described in the graph below:



Figure 5 - Aspect strands per Phase

There is some variety between the different Phases and while there is inconsistent use of the platform across Phases, there is still sufficient use to be able to make some sort of comparison. So we note that there is a drop off in Online relationships as the Phases go up, and an increase in Health and wellbeing related aspects. We can also see that the Self-image and identity strand is fairly consistently applied across Key Stages. As a demonstration of the potential of the data available in the tool, we can compare regional variation because we know the locations of any school registering to use to the platform. As we can see below, there isn't significant variation across regions at the present time, aside from Scotland, where use has been at its lowest to date so we would not wish to flag this difference as a major significance. It does highlight, however, the national picture as a consistent one – the focus of Online relationships and Self-image is fairly similar across the whole of England, as are other strands.



Figure 6 - Regional variation of strands accessed

As a final analysis of the sort of aspects that are of most interest to teaching staff (which allows us to reflect upon the sort of topics being taught in the classroom), it is worthwhile to look at the most and least "popular" aspects, based upon the number of times each has been viewed:

l can recognise, online or offline, that anyone can say 'no' - 'please stop' - 'l'll tell' - 'l'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset.	3,415
l can recognise that there may be people online who could make someone feel sad, embarrassed or upset.	3,335
I can explain what is meant by the term 'identity'.	3,287
l can explain how my online identity can be different to my offline identity.	2,802
l can explain how identity online can be copied, modified or altered.	2,772
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.	2,578
I can explain how sharing something online may have an impact either positively or negatively.	2,577
l can explain how other people may look and act differently online and offline.	2,335
I can give examples of when I should ask permission to do something online and explain why this is important.	2,174
l can explain how people can represent themselves in different ways online.	2,126

#### Table 1 - Most popular aspects viewed

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

I can analyse online material to identify when this is happening and who might benefit.	24
I can explain why networks require secure management and can give examples of services that support this (e.g. firewalls, VPN, user monitoring).	24
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.	25
I can explain what is meant by persuasive design and can explore ethical considerations around its use.	27
I can identify and assess when data needs to be transferred securely and can describe strategies to achieve this (e.g. encryption, secure services).	28
I can explain the term 'whistleblowing' and evaluate when such action may be appropriate or inappropriate.	28
I can describe how and why individuals, or organisations or states may saturate online media with selective information and disinformation to deliberately confuse or divide populations.	29
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).	31
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).	31
l can describe anonymous access services (e.g. TOR, Guerilla Mail, DuckDuckGo) and can give examples of how they may be used in both positive and negative contexts.	31

Table 2 - 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 legal issues. All of which, we would suggest, are extremely important topics when considering how we protect our digital assets and interact with the online world. However, the analysis of data from the platform clearly shows this is a neglected area.

Finally, we can also see which aspect was accessed first in any institution. This is an interesting thing to consider, because this is the start point in the school's journey in delivering online safety using the ProjectEVOVLE platform. It is particularly interesting when we note that one aspect has been used as the starting point almost twice as much as any other:

l can recognise, online or offline, that anyone can say 'no' - 'please stop' - 'l'll tell' - 'l'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset.	464
l can explain what is meant by the term 'identity'.	245
l can recognise that there may be people online who could make someone feel sad, embarrassed or upset.	220
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.	129
l can explain how identity online can be copied, modified or altered.	122

Table 3 - Aspect accessed first by school

Again it is not surprising to see these aspects centred on identity and relationships. However, it is extremely interesting to note the most popular starting point, particularly given it is used far more than others. The focus around consent and disclosure is encouraging and very much at the core of progressive online safety education.

## 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.

For each Knowledge Map a student is presented with a scenario drawn from each of the relevant strand statements for their year group. Their chosen response is mapped to one of the five Burch Competencies indicating their understanding of that concept:

1	Unconscious incompetence
2	Conscious incompetence
3	Emerging conscious competence
4	Developing unconscious competence
5	Reflective unconscious competence

#### These can be summarised as:

1	Incorrect understanding
2	Gaps in knowledge
3	Emerging understanding
4	Developing understanding
5	Secure reflective understanding

The scores reflect the average scores along this continuum. Again, we should caveat this given that these aspects and Knowledge Maps are chosen by the class teacher, rather than as, for example, an independent testing or examination strategy and should not be considered "proof" of students' knowledge across the country. However, it is an excellent indicator of what is being assessed across the online safety subject, and what the levels of understanding of these topics are.



Across all Knowledge Maps carried out in the database (83667 Knowledge Maps), the average score is 3.56. 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:



#### Copyright and Ownership

Figure 8 – 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. If we also consider the standard deviation across Knowledge Maps per strand we can also see some variation:



Figure 9 - 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. We can also see that the highest scoring strand, Health and Wellbeing, also has the narrowest standard deviation – showing the knowledge is consistently strong with the strand.

We can also see the proportion of responses per level per strand:



Figure 10 - 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.



We can also see that knowledge across each strand generally improves as students get older, which is encouraging to see:

Figure 11 - Knowledge improvement across Key Stages per strand



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

Figure 12 – Coverage of Knowledge Maps per Key Stage



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

With Online Relationships assessed far more in primary school, and a large growth in Health and Wellbeing and Self-Image in later Key Stages.

Figure 13 – Regional variation of knowledge across topics

However, we would stress that given the current volumes of data, this is more an indication of what is possible as the database grows, rather than a clear illustration if knowledge differences across the country.

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:

l can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this.	1,435
l can explain how my online identity can be different to my offline identity.	1,419
l can describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them.	1,380
l can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours.	1,294
l can explain how content shared online may feel unimportant to one person but may be important to other people's thoughts feelings and beliefs.	1,292

l can describe strategies for safe and fun experiences in a range of online social environments (e.g. livestreaming, gaming platforms).	1,285
l can explain how identity online can be copied, modified or altered.	1,209
l can demonstrate how to make responsible choices about having an online identity, depending on context.	1,174
l can describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs.	1,138
l 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.	1,137

Again, these focus on aspects of identity and relationships. There are very clear illustrations throughout the ProjectEVOLVE database around a focus on living with digital tech and how it is used in everyday life.

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. For those Knowledge Maps that have been used, those with the strongest average scores are:

I can give examples of how the internet and social media can be used for positive self-promotion.	4.7744
l can describe how to capture bullying content as evidence (e.g. screen-grab, URL, profile) to share with others who can help me.	4.595
l can demonstrate how someone can protect their work from copyright theft.	4.5435
l can describe how messages online portraying 'identity ideals' can inhibit someone from being themselves online or sharing things openly.	4.5319
l 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).	4.4374

Whereas the weakest aspects centre generally on more complex topics:

I can explain what 'autonomy' means to me when it comes to the things I share and choose to engage with online.	2.5625
l can describe ways people who have similar likes and interests can get together online.	2.582
l can explain what app permissions are and can give some examples.	2.6198
I can accurately define the concept of plagiarism.	2.6484
l can explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others.	2.7108

However, we would reiterate that these averages are likely to change and evolve quickly as more and more users and schools make use of the new Knowledge Map functionality.

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. Across all strands, knowledge within guided assessments is lower:



Figure 14 – Average scores per strand comparing Independent and Guided

However, it is also clear that Guided assessments are used little past Key Stage 1, and as we have already shown, knowledge is weaker when students are younger:



Figure 15 - Proportion of Guided vs Independent assessments per Phase

# Conclusions and Implications

This is the first of what will become an annual review of data drawn from the ProjectEVOLVE database. The data presented here unquestionably show the impact of ProjectEVOLVE across education institutions in the country – it is clearly very popular and those who have engaged with it engage a great deal. We should stress that the analysis of this data is still very much in its early stages, and we would anticipate far greater use, and therefore far bigger data sets to analyse, as awareness of the platform grows and more schools start to use it.

We are also in the early stages of the Knowledge Maps and they grow at rapid rate. What is clear is this data provides us with unparalleled knowledge regarding online safety education and knowledge in schools around the country, and this clearly has implications for both schools and also at a national policy level around online education. There are a number of key findings to consider:

It has been very clearly illustrated that the vast majority of activity around online safety education using the platform happens in Phase 2 (KS2) and activity drops off considerably in secondary. This is true for both aspect views and Knowledge Maps. There is a challenge in the sector to consider how online safety education can be made to work in secondary settings, and now to motivate senior managers to consider its importance. While having foundational knowledge in primary settings is undoubtedly crucial, the learning does not end in secondary school and young people need to develop their knowledge as their lives and relationships become more complex and they are, arguably, exposed to a greater range of online harms.

We can see from the data that knowledge is better in secondary settings, but we also know that assessments are done in far lower numbers. We also know that those more complex issues, and those that might relate to risk mitigation when tackling online harms (for example between cybersecurity practices) are not used well across the platform. It is encouraging to note that the most popular aspects and also Knowledge Map use links media literacy to wider PSHE/RSE issues – this is encouraging and highlights the need to connect online safety issues 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. We would suggest this is because there is less linkage at a policy level between the importance of good cybersecurity practices and risk mitigation around online harms. This is also against a backdrop where no student has any education around cybersecurity, unless they choose to do GCSE Computer Science, after Key Stage 3. As mentioned above, knowledge needs as students get older become more complex and we cannot assume that the learning that was carried out in primary school stands them in good stead navigating the online lives effectively in later teenage years. Good cybersecurity practices underpin good risk mitigation when engaging with online platforms, but there is little national policy direction on this crossover.

If we consider the most "popular" aspects and use of Knowledge Maps, we can see that the focus of delivery lies with online relationships and identity. This illustrates the importance of recognising online issues as something that arises as part of peer to peer interactions, and harm reduction cannot readily be address with automated tools and platform takedowns.

Finally, we might observe that aspect views and Knowledge Maps used (i.e. delivery in the classroom) also give us a window into the knowledge of staff delivering these resources. We would suggest it is no surprise that those aspects that discuss more technical issues are not as widely engaged with, and perhaps highlight the need to improve teacher confidence in tackling the more technical aspects of online safety, as they can, as discussed above, provide strong foundations for mitigating risk online.

What is clear, nevertheless, is that ProjectEVOLVE is a platform in great demand by education professionals which continues to grow week on week. While this first analysis presents a great deal of incredibly useful information, this growth will give us an unparalleled resource to inform online safety policy in the UK.







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