

## Access-Ability Communication Technology

Sharing ways IT overcomes communication disabilities

### Mental Health Wellbeing for Deaf young people through Digital Technologies

Funded by the Coronavirus Community Support Fund (HM Government & the National Lottery Community Fund)

Report by Ruth Montgomery and Rubbena Aurangzeb-Tariq

Partnership project between AACT & Deaf Aspirations which are represented by Ken Carter Riccardo Mancuso, Deborah Flory and Helen Lansdown.

Report compiled January 2021

#### Why AACT & Deaf Aspirations?

AACT4Children and Deaf Aspirations are dedicated to improving the lives of children young people and adults who are deaf and have other communication needs and want to use online communication in this pilot community an online pilot community focused project.

The primary aim is to introduce Zoom, Skype, Face Time, Messenger & WhatsApp to deaf children/young people and their families. Our connections with families and professionals give us the best possible feedback where young people are concerned.

It will also target children and young people who face challenges in terms of communication, speech, and language.

The project will:

- Investigate ways that substitute classroom learning during the coronavirus pandemic
- combat mental health issues
- Enhance interactive communication
- Discover and realise learning opportunities and access through Subtitling & Sign Languages for deaf children & their families.
- Provide information and support to community centres/schools and special units which support the children.



#### About the researchers:

**Ruth Montgomery** is a teacher and workshop leader. She has worked with young deaf people of all ages and their families for over 16 years.

She is a parent of 2 young sons, one of whom is deaf, while the other has vision challenges. Ruth attended a residential deaf school. She has a music degree and teaching diploma. She has also achieved NVQ Level 4 in Playwork. She leads numerous projects with, and on behalf of, the charity Decibels UK.

**Rubbena Aurangzeb-Tariq** is a professional artist and Art Psychodynamic Psychotherapist. She is a Clinical Specialist for the NHS National Deaf CAMHS Service and has a private practice working with deaf young people under 25.

Rubbena is deaf, attended mainstream school and has 4 degrees in Psychotherapy and Art. Rubbena is Lead Trainer and Resources Developer for Deafax and has delivered numerous training sessions on emotional and mental wellbeing and PHSE over the past 25 years.

**The Project**

**During the 6-month research period (August to December 2020)**

- We identified key areas associated with speech, language and communication challenges.
- We held a series of interviews online and face to face.
- Created a questionnaire for young people in order to gauge views.

The resulting information directly relates to young deaf people, mental health issues, and digital technologies. It is explained in detail in this report.

**Research areas:**

<ul style="list-style-type: none"> <li>• Social media channels</li> <li>• Parents/family/friends</li> <li>• Interpreters</li> <li>• Other organisations – miscellaneous, working to support the technology and education front for Deaf children and families</li> </ul>	<ul style="list-style-type: none"> <li>• Education channels</li> <li>• Schools/Teachers</li> <li>• CODAs (Children of Deaf Adults)</li> <li>• Creative Arts</li> </ul>
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**Trials and tribulations:**

<ul style="list-style-type: none"> <li>• Ease of technology use</li> <li>• Mental Health Wellbeing</li> <li>• Access to technology – BSL/Subtitling/posters</li> </ul>	<ul style="list-style-type: none"> <li>• Safeguarding</li> <li>• Screen time</li> <li>• Affordability and cost of technology</li> </ul>
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**And most importantly:**

The views of and feedback from young deaf people.



## Example of findings below – feedback from year 9 pupils

	Responses	
	Percent	Count
Yes, school/college	9.09%	1
Yes, friends	72.73%	8
Yes, activities	18.18%	2
No, happy to stay at home	0%	0
<b>Totals</b>	<b>100%</b>	<b>11</b>

### Why is this research important?

Covid-19 has changed the world irrevocably.

Coronavirus is a respiratory disease. It is transmitted from one person to another through unwashed hands and also through coughs/sneezes. Covid-19 is a specific type of Coronavirus which originated in Wuhan, China. It has spread rapidly affecting many people around the world.

The World Health Organisation (WHO) and HM Government's advice in response to the virus was to "Stay at home" and "wash your hands frequently for 20 seconds" in order to "Protect the NHS".

The Prime Minister initiated a 3-week lockdown throughout the UK on the evening of 23rd of March 2020. This was then extended until restrictions began to lift in June 2020.

Since then, we have all learned to live with mask wearing and social distancing as well as tier restrictions and occasional short-term lockdowns.

The situation continues to be fluid with service closures/re-opening, and restrictions for school/housing bubbles etc.

### AACT research August – December 2020

The impact of lockdown restrictions and the resultant challenges upon education, employment, and mental/physical health has been profound. While it has been a universal experience, young deaf people have been particularly severely affected. Deaf people are often marginalised by society, but with coronavirus, this issue could be magnified. Recent statistics by the British Deaf Association show that 1 in 6 people have a hearing loss and 151,000 people use sign language. Deafness nonetheless remains a hidden disability, with many people failing to understand the full implications of, and impact that hearing loss can have on a person's life.

### The need for this project and mental health

According to the British Society for Mental Health and Deafness (BSMHD), it states from its research that - **"Deaf children & young people are almost twice as likely to have mental health issues compared with the general population (40% against 25%)"**.



In addition, those with mental health and deafness issues (multiple needs) often face marginalisation from mainstream society. There is a great deal of stigma attached to mental health in our society, which leads to isolation and loneliness even in close knit communities.

Early language and communication is vital to a child’s psychosocial well-being, but deaf children are often unable to make themselves understood at a young age. Amongst families, this can lead to a child being four times more likely to develop mental health disorders than children in families with successful communication (Fellinger, Holzinger and Pollard, 2012).

### Opportunity

This project gives us the opportunity to hear the views of teachers, parents and young people affected by the pandemic.

The challenges of teaching online have been tackled by the swift acquisition of new skill sets and the subsequent transformation of lessons. Classrooms have been replaced with a home-based virtual teaching environment.

What are young people’s views?

We held a series of interviews for 8 – 25 year olds.

It is important to note that educational services worked rapidly to accommodate provision in accordance with advice from SAGE, so that online learning could take place in pupils’ homes.

At the time of this research many social media channels and educational apps had already been established by young people themselves as well as teachers, families, and friends.

However, according to teachers, “virtual” teaching has developed at an astounding rate. It was not in use to such an extent prior to the pandemic.

The incredible speed and ingenuity with which so many people have adapted to the teaching challenges created by the pandemic are recognised by the report’s authors, through our discussions with teachers and parents.

New skill sets have been swiftly acquired and lessons have been transformed. Such a response has ensured that teaching continued within a wholly virtual context for the very first time.

Many established video and learning platforms have been developed and many are still in the process of being developed. However, not all are accessible for deaf children and young people and there is also lack of awareness of what platforms are available. We have also to consider their mental health.



First, it is necessary to first outline the **most popular video call networks and social media platforms that are already available.**



### Skype

This is the original video call network. Although excellent, it has been the least popular recently.



### Facetime

An Apple equivalent of Skype for Apple products and users only. Free calls can be made through wifi. It picks up sign language communication and facial expressions very well. The app can be enjoyed on smartwatches. Video streaming is available along with easy texting and clear video calls.



### WhatsApp Video

This is the easiest to use but is designed for smartphones only. It is mainly a texting platform with video capability. A video call can be made simply by touching the camera icon. This connects you directly with another user. You can set up a group call with up to 4 people.



### Facebook messenger

This has a video capacity and suits those who spend a lot of time on Facebook.



**Zoom** Zoom soared to popularity during the crisis. The basic membership is free during the pandemic.

It is, however, mostly a business platform and best for meetings with up to 100+ people. It is also being used for virtual family gatherings, games/quiz nights, church services and even weddings.



### GoogleMeet and Google Classroom

GoogleMeet is similar to Skype and Zoom but is ideal for an android phone or tablet and if your family has Apple devices. It is very easy to use and the picture quality is good. Google also has a system called Hangouts for multi-party calling.



### Glide

Glide claim they are the fastest live video messenger app on the planet. People can enjoy sharing everyday moments in real-time with friends if they so wish. The app has cool filters making videos more creative and convenient for users.



### Instagram

In 2018, the app introduced a video calling feature in Instagram Direct allowing users to video call individuals or small groups of up to 4 people.

In mid-2020, Instagram rolled out messenger rooms, allowing you to join on a video call with up to 50 people. It is free, there is no time limit and it is easy to use.

The Instagram app is primarily focused on visual content. There is plenty of high-quality entertainment on this social media app.



### Snapchat

This is used to share photos, videos, text messages, and more. A recent update means video **calls** can now be made to fellow Snapchatters.



### Houseparty

This is, as the name suggests, primarily a multi-user facility. It is a good way of communicating across generations as young family members invariably have it for live games such as 'hang man' and 'guess the picture;' – all used with the timer activity.

## Popular Main Social Media Sites



Alongside very popular video call apps, Facebook is still regarded as the primary social media platform for the dissemination of information and awareness today.

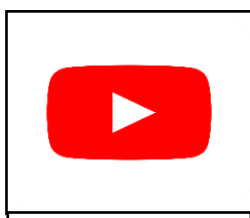
For example, there is a BSL Coronavirus Support Group which includes short BSL update summary videos uploaded by the Royal Association for the Deaf, Deaf Mental Health Network, CAMHS service, Deaf Technology Advice Hub, NDCS parent and young people's pages – Deaf Arts events to name but a few.

Facebook is also a fun and very simple way to stay in touch with people as it only requires an email address to register. Many people set up and follow particular interest groups.

It is easy to refer and recommend posts to registered Facebook users. It is also easy to contact people worldwide, regardless of location.

## Benefits of Remote Learning and examples of popular apps

Since the pandemic began, social media sites have grown enormously in number. It has been the safest way to continue both working and learning from home. In terms of education, the biggest plus point for parents, pupils and teacher is to be able to have an easily navigable system all in one place. This makes it simple and straightforward to use.



Conference calls can be set up for more formal situations, e.g. live public broadcasts, webinars etc. Zoom is especially popular for this. It can be used in real-time, or as a recording. Zoom broadcasts may be accessed on YouTube for catching up on school/homework or making notes. One bonus of working from home is that no dress code is needed. Students can watch lectures in their favourite study room or even out of doors.



## **Education: All in one place**

Video messaging is an ideal medium for education. It supports interaction between the home/school and community networks, allowing deaf children & young people, teachers, parents and friends to communicate and share ideas in private.

All the digital systems (such as Zoom) give families and establishments the opportunity to fully explore real-time, child-safe, collaborative technology. This allows children/young people to learn, communicate and share with others throughout the world in ways which were previously impossible.

**Video Platform for Education**  
**Distance Learning - Video Content Management – interactive apps**

**Video Platform**  
**Live Streaming - Video Recording Software - Video CMS - Uploading**

**Recording**  
**Record multiple sources at the same time.**

**Resources**  
**Internet safety, print out work, uploads, industry-leading video platform ...**

**Group package**  
**This app gives you a faster, more engaging way to share information**

**Lecture Capture Software**  
**Capturing a lecture with this app is as easy as opening a laptop ...**

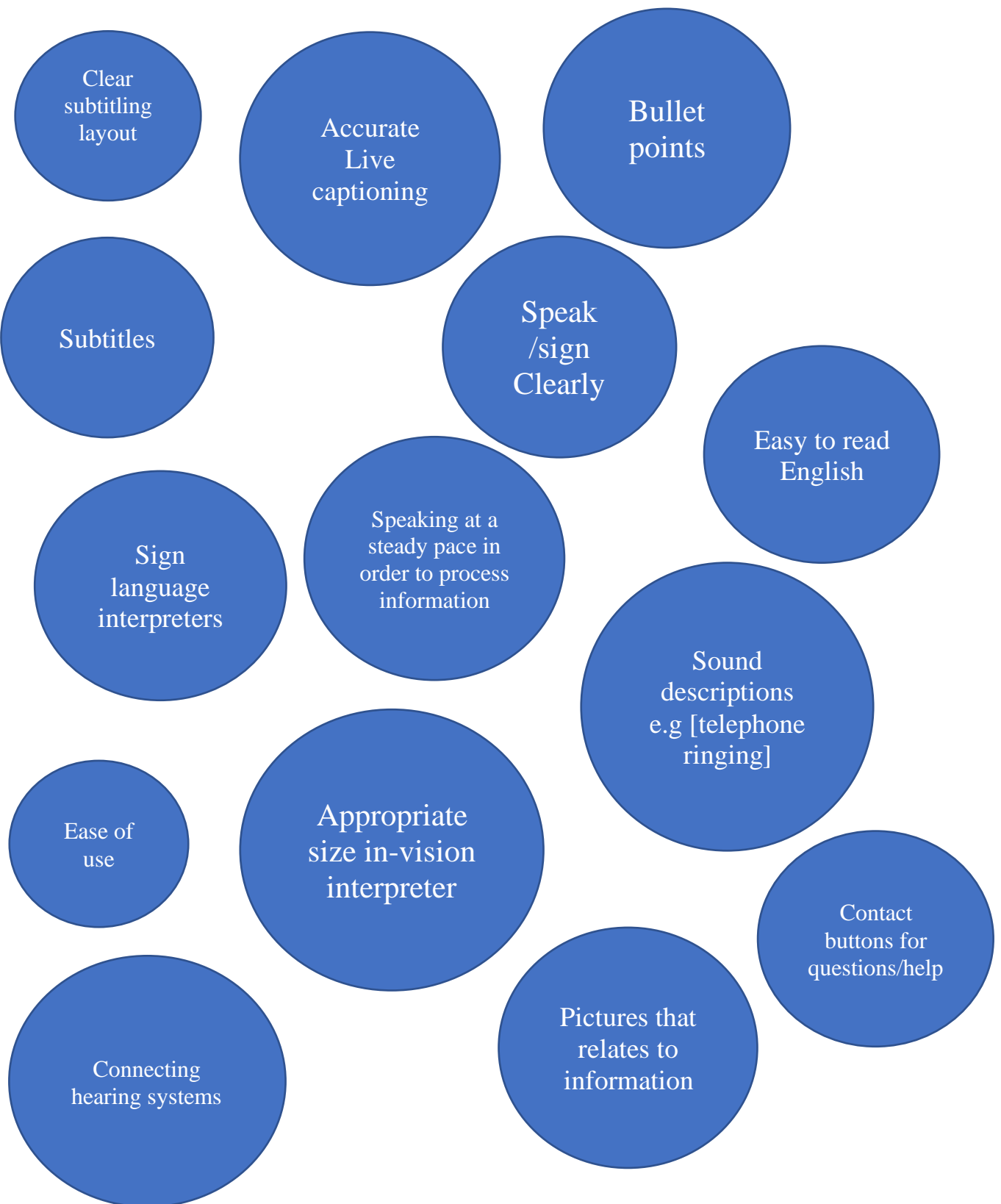
## **What about accessibility?**

Deaf people require platforms to be as accessible as possible. This ensures all possible communication needs are met. There should be no second guesses, but all options instead need to be made available. A list of examples is shown below. It must be noted that a designated specialist co-ordinator in the workplace would be responsible for planning and initiating access requirements.

Whether print, audio or visual media, all formats can be much more easily overcome through digital technologies – by consultancy and listening to others. It is important because when access is provided, social inclusion is possible. Accessibility therefore supports not only people with disabilities but also others such as older people.

**What do we mean by accessibility for deaf people?**

**Here are some examples.**

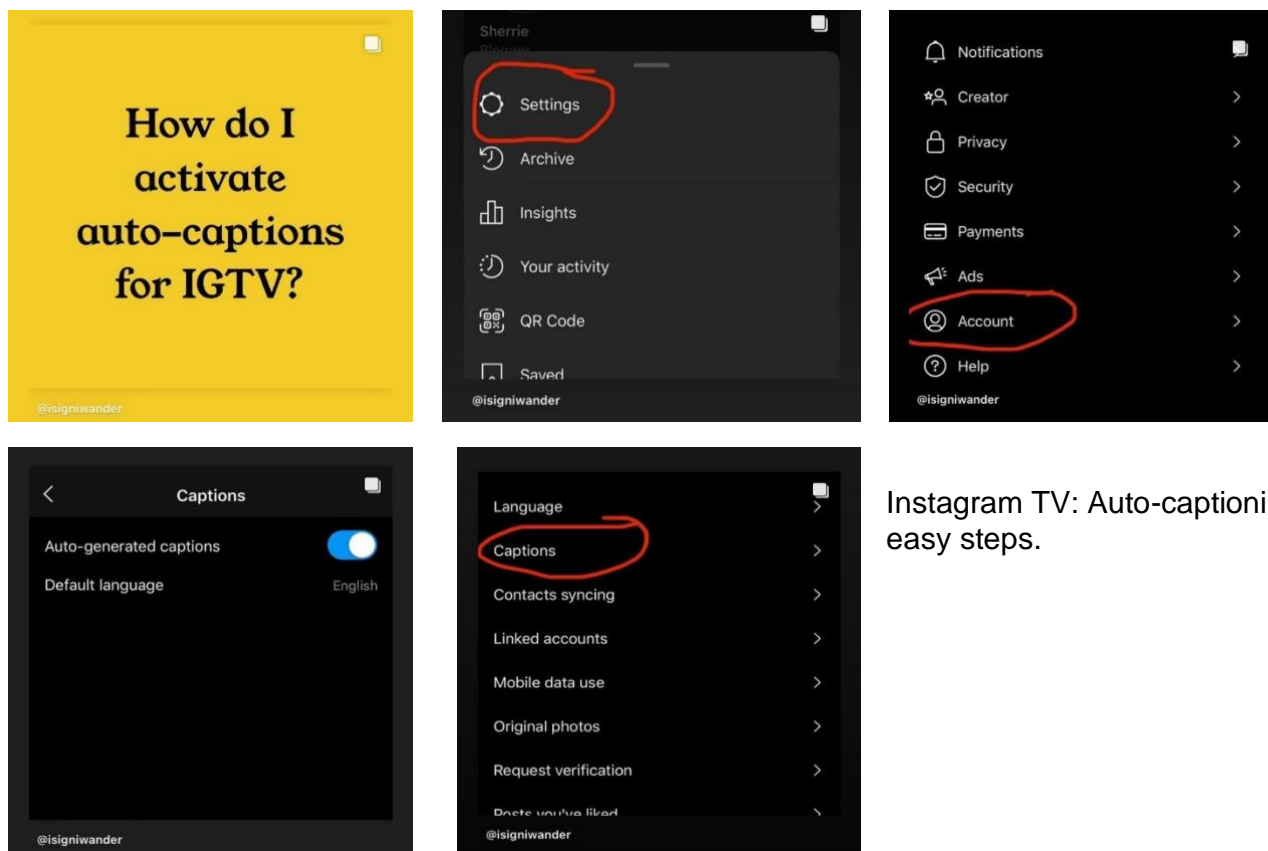




## Captioning

The Deaf Community can, at times, be very good in vocalising their access needs and highlight this via their social media channels. For instance – they will take screen shots and ask others to share information about how to activate auto-captions for IGTV (Instagram TV).

See images provided:



## Speech-to-text reporters and electronic note-takers

Speech-to-text reporters (STTRs) support people with hearing loss to access spoken information via a laptop or computer/projection screen. STTRs use a special keyboard and system called Palantype or Stenograph to type words phonetically. This enables English translations to be provided in real time on a screen. It is most suitable for people who are capable of reading text quickly for long periods.

Electronic note-takers also produce notes onto a laptop, but this is in the form of a live, comprehensive summary of what is said rather than a verbatim account. This form of communication support is most commonly used in education. Verbatim accounts are still popular although they are not new.

The issue being not many people are aware of how to make their content accessible which is why the Deaf community often post in their social media networks, as below:

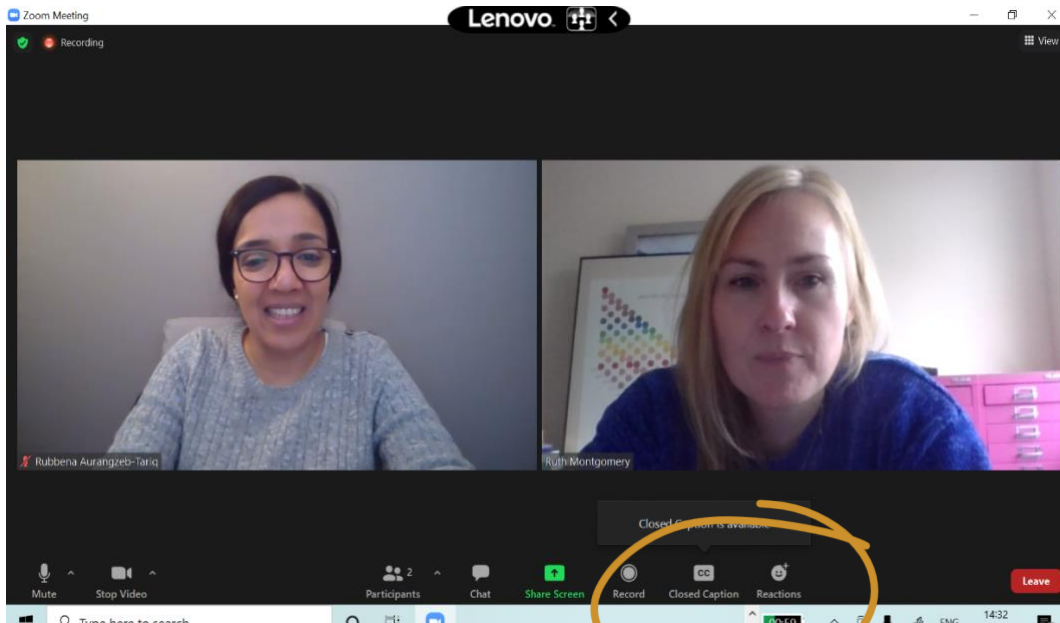


**Source:** Marketing with Eva - Marketing Consultant, Deaf Community

### Useful software and apps

The range of apps and specialist software designed to assist people with hearing loss (some of which utilise voice recognition) is expanding all the time. Many of these are available on different platforms. Options include:

- *Skype* (subtitle function) or *FaceTime* (for Mac OS and iOS only) for video calls, voice calls and instant messaging
- *Microsoft Translate* provides translated subtitles on any device. This can also be used to display subtitles on a PowerPoint presentation in any of the supported text languages ([translator.microsoft.com/](http://translator.microsoft.com/)) ([translator.microsoft.com/help/presentation-translator/](http://translator.microsoft.com/help/presentation-translator/))
- *Google Live Transcribe* provides real-time transcription of speech to text on an Android device. This is currently still in Beta mode ([www.android.com/accessibility/live-transcribe/](http://www.android.com/accessibility/live-transcribe/))
- ***Sonocent Audio Notetaker*** for capturing live recordings (or imported audio) and converting these into accessible chunks of text for subsequent editing. Sonocent Recorder is a free companion app that works with this software on both Android and iOS.
- *Roger Voice* for captioning telephone calls and voice messages ([rogervoice.com/en/](http://rogervoice.com/en/))
- *Vox Sciences* for transcribing voicemails and delivering these to your mobile as a text message or email ([www.voxsci.com/](http://www.voxsci.com/))
- *MobileSign* and *BSL Finger Spelling* for learning British Sign Language
- *InterpreterNow* – an instant video-relay service that allows deaf people to make a video call in sign language, with an interpreter providing voice-over in real time ([interpreternow.co.uk/](http://interpreternow.co.uk/), [Sign Live](#), [Sign Video](#))
- *Braci*, *OtoSense* and *TapTap* provide are sound recognition applications that provide visual and sensory alerts to draw attention to nearby sounds
- *TapSOS* is a non-verbal way to connect with the emergency services which is launching soon ([www.tapsos.com/](http://www.tapsos.com/))
- Some Video call services have inbuilt live captioning services e.g. Zoom and Google Meet – but this option is only available at a premium/membership rate.



• The CC Closed Caption option for speakers to be live transcribed.

### Sign language interpreter access and note takers.

Sign Language interpreters have a very important role, more so since so many interactions are online and on social media. Since the March lockdown, many interpreters have switched to online services. These include remote telephone calling and conference interpreting, both in the public and private sector.

Some video call screens have developed a 'pin' or 'spotlight' feature where the interpreter can occupy a large space onscreen while the other participants are communicating directly in smaller windows.

Ways to ensure best practice when using/working with interpreters on Zoom.

- Quality of Wi-Fi connection
- Size of screen – larger screens mean the interpreter is more visible
- Meet the interpreter beforehand so signing style can be familiarised
- Ensure good lighting, and a plain background.
- Join via 2 devices if possible - one to pin the interpreter separately for the duration of the meeting.
- Ensure those with the video facility hide those who have their videos off.
- When a document is shared, this can be facilitated by pinning the interpreter and changing the size.
- Apply/utilise Zoom's Hand Raising tool for group discussions.
- Use the chat box feature to clarify any terminology, key words or names
- Advise participants to identify themselves before contributing (e.g., "this is Ruth speaking")

**Useful links:** [Tips on using Zoom with a Sign Language Interpreter | Deaf Unity](#)



**PODCAST** – some educational links and resources for learning.

Simply put: a **podcast** is an audio programme, just like Talk Radio, but you subscribe to it on your smartphone and listen whenever you like. Subscribe to the Podcasting Advice show on your listening app of choice.

For deaf people it is not at all accessible – however, there are ways around it. These are:

To make your podcast visual, ensure a transcript is provided on the website.

**Other considerations: Provide a sign language interpreter in the PODCAST VIDEO - for instance USE loom.**

### Funding implications.

**This raises the issue of how the interpreter is funded**

**The question is – who will pay for the costs of interpreters?**

Where there is no in-built caption facility or sign language interpreter – otter.ai and the elephant apps (available to download) pick up spoken language and transcribe into text.

Although much inbuilt software is free and available, 'Access to work' (a government scheme) is usually the first port of call for providing support if you are a deaf person in employment. Educational support is funded by the Education, Health and Care Plan for children and those in higher education.

### **Why should transcripts should be added to podcasts?**

1. It boosts SEO: Search Engine Optimisation. This is the practice of increasing the quantity and quality of traffic to your website through organic search engine results.
2. Increases Web Accessibility – not only for millions of deaf/hard of hearing people but also foreign viewers whose first language is not English
3. Get Quoted & Credited, a podcast transcript will increase the chances of getting quoted in a tweet, blog or article, which improves page authority and SEO as mentioned above.
4. A better UX - People can read along while they listen with tools such as Interactive transcript.



## **Parental controls and information:**

Children under the age of 13 should not own an email account for social media sites. Advice on age guidance and setting up an email account can be found at the following link [Create a Google Account for your child - Google For Families Help](#)

It is important to stress that WhatsApp is actually age rated as 16+ so yr7s should not be accessing this platform. It may also be worth mentioning that many other social media sites such as SnapChat are also age rated 13+. The website [Net Aware: Your guide to social networks, apps and games \(net-aware.org.uk\)](#) allows you to find out about different apps and social networks. There is also a helpful article about '**8 Tips for Keeping Safe During Lockdown**'.

## **Work from home securely**

Do not make your home address public

School's Newsletter December 2020 about Parental Controls:

- Over the Christmas period we expect Father Christmas to deliver some new technology to the students, please remember to check the parental controls to ensure the content accessed by your children is age appropriate.
- Screen time restrictions can be set if wished.
- Parental controls can be set on entertainment platforms, such as Netflix, Amazon Prime, Disney+ etc, to ensure the films/ TV series available are age appropriate.
- A website called Common Sense Media offers parents/carers the facility to look up specific apps, games, films and TV shows to find out what they contain and the level of suitability for a child. They also have helpful information and a Corona Support Hub.  
[www.commonsensemedia.org/reviews](http://www.commonsensemedia.org/reviews)
- Wellbeing If a child would like to talk to someone outside the family, they can contact ChildLine on 0800 1111 or online via a messaging service or BSL interpreter.
- For advice regarding Mental Health there is a website called Young Minds. Available by contacting 0808 802 5544 or [www.youngminds.org.uk/contact-us](http://www.youngminds.org.uk/contact-us) A GP appointment can be made if necessary –note: a child may need to be registered as a temporary patient.
- Be Kind Online, The National Online Safety Network have created '*14 Ways to Be Kind Online*'. Ideas include thinking before making a comment, being positive and unfollowing pages/ people that make you feel negative. If a young person experiences online bullying or trolling a parent/carer can help by blocking the person and reporting it to the social media platform or police.
- The Sign Health charity has detailed support/guide and information on What to do if your child needs mental health support. Detail in reference.

## **Case study**

### **Microsoft Teams for Secondary schools and University places**

Microsoft Teams is another example of an education app. It is used in deaf schools in the UK.

As with many education apps, Microsoft Teams is an example we will use as it is used in UK Deaf schools.

A school-provided email address is issued to everyone and there is a link which takes you to the online classroom to meet the teacher.

There is a teaching schedule to follow throughout the day, access to the discussion room, class-specific breakout rooms, interactivity with Q&A and Live sessions. This software can also establish large groups when required, e.g. for assembly when the whole school is involved at once.

For students and teachers, there is a facility to download/upload work in folders and also set notifications and reminders.



### **Case study – School Rules**

The use of software is not without rules.

- Pupils should be on time and ready to learn and engage.
- Pupils should be fully and appropriately dressed. Where possible, sessions should not take place in their bedroom.
- Where possible, ensure that the background is suitable or blurred.
- Pupils will be expected to use appropriate language - any inappropriate language or content will be shared with the safeguarding lead via the Keystroke detection software – more in the sections below

### **Sound access:**

Assistive devices and/or support can help individuals manage their hearing loss and transcend potential barriers to engage fully with education, work and leisure activities. However, each person and their requirements are unique, and anyone with hearing loss should always seek expert assessment and advice from an audiologist or a specialist charity.

### **Hearing aids and Cochlear implants:**

To support them working online, all students are encouraged to use their leads, mini mics, compilots and headphones as they would for the group aid. For many of them, 'This makes a massive difference'.

These are ways to access the computer or anything with a headphone socket (TV, iPad, tablet, phone etc) - with the different hearing equipment available:

- **Hearing aids** — using the direct input lead from your group aid into your hearing aid. For this you will need your hearing aid shoes and leads.

- **Cochlear N6 processors** — using the cochlear lead from the group aid. Connecting one end in the cochlear and the other in the headphone socket. Many of you will have these leads at home in your cochlear pack.
- **Cochlear N7 processors**— using the mini mic to connect as you would do the group aid. If anyone is finding this hard or parents would like help, a video call can be arranged.
- **Advanced Bionics Naida processors** — some of you were using headphones, we can send these out. Others were using compilots.
- **Med-el Sonnet processors** - Using your FM sleeves and your direct input leads, you will be able to connect using your direct input leads.
- **BAHAs** use a roger pen/t-loop support as advised by your audiologist.

Information source: Audiology department, Mary Hare School for the Deaf.

### **Safeguarding**

Safeguarding remains a huge priority for all children and young people under the age of 25.

It is the intention of AACT4Children & Deaf Aspirations to make it easier for teachers and parents to guide their deaf children & young people through this exciting new world of video communication, while avoiding the many dangers of unregulated public sites.

It is imperative that young people understand about:

- Keeping safe online
- Where to access information about keeping safe
- Sharing information carefully
- Being able to talk to a trusted person
- Knowing where/ to talk to someone
- Knowing when something is inappropriate
- Taking care of mental health
- Receiving counselling online during the pandemic – accessibility for deaf people

### **Keystroke detection software**

Keystroke detection software on many schools' computers or laptops has a **program** installed that runs continually on the device from the minute that it boots up.. The **detection** will either record every **keystroke** that is made in specific fields on a website. This is the schools 'policy and a way of supporting children's emotional health and wellbeing.

The email extract below is a real-life example. Pupils are aware of the detection system on the computer.

*“Dear Parent,*

*I hope you are well. I’m writing with my other hat on today as Deputy Safeguarding Lead.*

*The school computers have a keystroke software attached to them which means that when a pupil types something concerning them, it records what they have written and sends us an alert so we can check to see if there is a problem. (It is called e-safe)*

*Your son was flagged up today because yesterday at 10.22am he had a zoom meeting with someone and in the video chat conversation he typed ‘I’m depressed’. No other further information but that was enough for us to be alerted and so I was hoping you would be able to have a chat with him and check he is ok. Please do let me know if there’s anything I can do.”*

This raises awareness between school and parent to support the child.

**There are pros and cons when it comes to technology.**

PROS	CONS
Become a more visible and engaged member of society	Posting inappropriate statuses/pictures
Connect with pupils and teachers for learning	Making people feel bad about themselves
Make new friends/communicate or connect with old friends/family	Cyberbullying
Get different opinions on things like surveys	Hacking into profiles and posting as a different person
Get a fanbase/try to make a name for yourself	Gossip/spread rumours
Showing your hard work, good ideas	People steal your ideas and try to claim it as their own
You could help somebody on a blog just by stating your opinion.	
Find people with the same hobby	
Ability to educate others in a different way – especially with deaf awareness	The use of social networking sites can cause personality and brain disorders in children. These include the inability to have real conversations, a limited attention span, a need for instant gratification, and Attention-Deficit Hyperactivity Disorder (ADHD), as well as self-centred personalities.
Help to search for job or find a car for example.	
More independence for shopping and research.	



Social networking sites bring people with common interests together	Stalking people  If your profile information is not private, people can get private information about you and your personal data.
Try to make an impact (helping with natural disasters and raising awareness)	
Social media sites are expanding from general interest to more specific uses that benefit society. For example, sites have been created for medical purposes such as dealing with life altering diseases, alcoholism, drug addiction, weight loss, and autism.	Social networking sites have no way to verify that people are who they claim to be, leaving people vulnerable to solicitations from online predators who are able to mask their true identities. (Twitter does not make you use a real name but Facebook ensures you use something that at least sounds like one)
Advertising yourself and a brand	Creating a blog that defames others.
Blog about your opinions to express yourself in a non-violent way	
Convenience (mass invitation online to events)	

### **Listening to Young People – a report by Rubbena:**

In order to gather data on the impact of technology on young people's mental health and wellbeing, Rubbena attended a specialist deaf school to meet with a group of 32 young deaf people from the age of 15 upwards. She asked them to share their thoughts, feelings and experiences of technology and the internet during the Covid-19 crisis. The discussion focussed mainly on their experiences of online learning and also access to health and financial services. These students live all over the country and many of them are residents at the special school, learning both in the school and in local colleges. Some live locally and attend the school as day pupils.

Through the group discussion, it became clear that accessing information and home learning in British Sign Language (BSL) has proved to be incredibly challenging for many of the students during the pandemic. The older students, who would usually have attended college, seemed to struggle the most. Young people still in school had personal tutors, and therefore had remote one to one support to complete their tasks. However, those aged 16 plus and in college found the shift to group online learning with BSL access provided by a Communication Support Worker (CSW) extremely hard. This is due to a number of reasons – but the main one being that high picture quality which is crucial for deaf students to be able to clearly see the signed information. Students reported that when they raised issues with the quality of the picture, particularly when using Microsoft Teams, they were often told it was an issue with their own WiFi connection. As the students were often onsite in their specialist residential school setting when participating in remote college learning this should not have been the case, but students did not feel confident to further challenge college staff or the CSWs on this issue. Quality of skill in CSWs can also vary widely, meaning students may not always be receiving full and clear translated information. The students reported that these issues can severely damage their confidence and ability to learn, leaving them depressed, demoralised, and not wanting to engage with their courses.

Rubbena found that in the group setting, students were keener to open up about the issues they faced around remote learning than they had previously felt during their day-to-day lives. When the

WiFi/picture quality issues mentioned above were discussed, several students realised they were not alone in experiencing these problems and Rubbena was able to feed this information back to the school staff to ask them to contact the colleges to express the students' frustration – both in regard to picture quality and also the quality of BSL access delivered by the CSWs. This helped to improve the students' experiences by ensuring they no longer had to accept poor quality provision. The group also shared the experience of being a minority within a majority hearing group. When working online, hearing students are able to listen and look or move around whilst still having access to the verbal information being shared. Deaf students, in contrast, must sit and visually focus on the screen which is extremely tiring. In addition to this, the deaf students reported a reluctance to ask questions or raise issues they were experiencing for fear that it would spotlight them and draw attention to them as deaf people, further alienating them from the group and risking ridicule for being 'different'. In addition, the nature of the visual experience of group online learning will be vastly different for deaf learners. A group video call session generally will consist of multiple video 'boxes' on screen, containing the tutor and learners. The more participants, the smaller the 'boxes' become. Deaf students will need to enlarge the image of the CSW in order to access information, meaning they may not have the same 'group' experience of the session as their hearing peers. As their information is coming through a third party, there will be a time lag and so the Tutor must carefully manage turn taking when students make comments or answer questions otherwise the deaf students will not have the opportunity to engage in the lesson other than passively receiving information. Mix all of these aspects with the WiFi issues mentioned previously and it is easy to see how online learning can be a frustrating and demoralising experience for deaf learners. Many of the young people also reported feelings of discomfort around appearing on camera or allowing others to see their home setting on camera, or issues around finding private space at home where they could focus away from distractions.

For several of the young people, the ability to be onsite at the special school was a lifeline for many reasons. Many students reported that their access to the internet at home was limited due to a lack of WiFi, competition with other members of the household for bandwidth or limited data for those using phones to access the internet. Financial hardship within families of many deaf children prevents them from being able to upgrade to better WiFi/broadband packages or, in some cases, even have WiFi or broadband at all. Coming to school allowed them access to good quality internet connection, and also allowed them crucial access to communication in BSL with their peers and staff. The deaf students overwhelmingly come from hearing families, and studies have found that only 16% of families with a deaf child adjust their communication to use their child's preferred method of communication. This leaves many deaf children and young people isolated within their home settings and often without access to information in BSL about the news, whether through television, online through social media or through conversation with family members. This leads to increased feelings of anxiety, depression, and loneliness and even to breakdown in family relationships. Interestingly, some of the students who had additional needs in the form of ASD/ADHD reported being happier during lockdown as there were less distractions for them at home, allowing them to focus on their learning. The draw of online gaming can prove to be positive in terms of social contact, mitigating feelings of loneliness and boredom, but it can distract from learning and affect sleep quality and patterns which can impact upon the whole life of the individual.

The impact of the breaks in education and move to remote learning has been huge for the deaf community. For some, face-to-face learning time which has been missed will not be made up, leaving them permanently behind their hearing peers. Whilst in general the deaf community is quick to embrace and adapt to new technology, platforms such as Microsoft Teams can be difficult to get to grips with and some guidance to set them up and understand the features is crucial. Zoom has emerged as the most popular and user-friendly platform for the deaf community; however, many school and colleges would not allow it to be used due to security concerns which is unfortunate as the features often allowed deaf users the most control in terms of image 'pinning'. Rubbena has heard from fellow professionals in the education sector that devices that have been provided by local authorities to allow deaf children and young people to access online learning have been taken away by families and given to hearing siblings as it is thought that their learning should be prioritised.

Professionals have had to challenge this and ensure that deaf children have access to equipment provided specifically for their education.

Outside of the education setting, deaf people have also faced barriers to accessing healthcare and financial services during the pandemic. On a positive note, many high street banks have now established the use of Sign Video, allowing deaf customers to contact them through a secure BSL interpreting service. Unfortunately, though, the link to access Sign Video is often contained in a section of the website which is hard to find, meaning that not all deaf customers even realise this service is available to them. Face-to-face GP or other specialist medical appointments were widely shifted to telephone appointments, which are not accessible for deaf people who would have no way to answer a telephone call without the support of a BSL Interpreter, which at home they would not have. Medical professionals have routinely failed to take this into account or provide alternative means of communicating with deaf patients which can often lead to their appointment being logged as 'did not attend' and can mean the health needs of deaf people are neglected. When deaf people have needed to access face-to-face care, such as in an emergency medical setting, the requirement for health professionals to wear masks can prove a huge barrier to communication. Clear masks have not been widely available in healthcare settings, leaving deaf people unable to gather information from lip reading or facial expressions. Particularly during the first wave of Covid-19, hospitals would not allow BSL Interpreters into treatment areas, meaning some deaf people had no access to communication with the professionals treating them.

### **Screen time**

How much is enough? How much is too much?

Source: NHS

Recommendations: children aged less than 2 years should not spend any time passively watching screens.

Children aged 2 to 5 no more than 1 hour of sedentary screen time in 24 hours is advised, though "less is better".

The WHO says the recommendation is evidence-based and screen time should be replaced with other activities, allowing more time for interaction, physical activity and sleep.

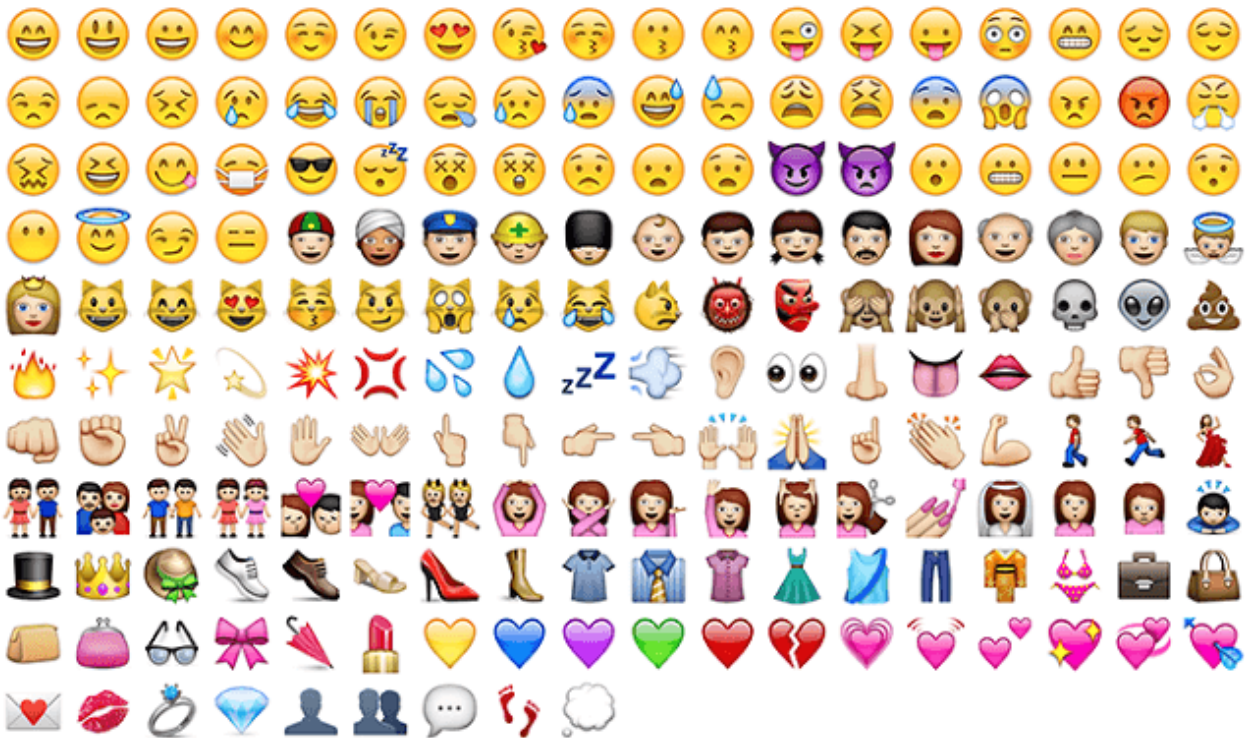
### **Managing Screen time:**

- **Research video and computer games before letting your teen get them.** Look at the ratings, which can run from EC (meaning "early childhood") to AO (meaning "adults only"). Teens should be limited to games rated T (for "teens") or younger.
- **Preview games and even play them with your teen to see what they're like.** The game's rating may not match what you feel is appropriate.
- **Make sure teens have a variety of free-time activities,** like spending time with friends and playing sports, which can help them develop a healthy body and mind.
- **Turn off all screens during family meals and at bedtime.** Also, keep devices with screens out of your teen's bedroom after bedtime, and do not allow a TV in your teen's bedroom.
- **Treat screen time as a privilege that teens need to earn,** not a right that they're entitled to. Tell them that screen time is allowed only after chores and homework are done.
- **Spend screen time together** to make sure that what your teen sees is appropriate. Watch TV, play games, go online — use screen time together as a chance to interact and communicate.

- **Use screening tools** on the TV, computers, and tablets to block your teen's access to inappropriate material.
- **Teach your teen about [Internet safety](#) and [social media smarts](#)**, and make sure he or she knows the dangers of sharing private information online or [sexting](#).
- **Keep the computer in a common area** – this is standard advice for all parents so as to ensure screen activity can be monitored. It nonetheless has particular relevance for deaf youngsters who might need support to ‘surf safely’

**Being able to express yourself**

There are a lot of tools and software nowadays where children and young people are able to express themselves, through pictures, emoticons, emojis and drawings rather than words. There are also the drawing apps, creative arts and editing software online, all of which open up numerous opportunities.



## **Conclusion**

The intention is to make technologies such as Zoom and Skype simple and accessible.

A secure, collaborative, communication space will be provided in which deaf young people can video chat with friends, send and receive video messages, share ideas, and import /export videos.

Video walls will be used to encourage debate and interaction amongst young people, wherever their location.

Each person's abilities and needs are unique. It is essential to collaborate with deaf specialist trainers for advice on appropriate access to technology.

Getting the most out of assistive technology can require adequate training. Sufficient opportunity is also needed in order to become familiar and proficient with the products.

Deaf users themselves are best placed to give feedback.

They can consider the design of devices, products and services and how well particular goals are achieved in terms of efficiency and ease of use.

There should be an access 'policy' in online development for deafness and other special needs.

## **Areas for further research:**

- Addressing the issue of affording relevant technology eg laptops? And social apps?
- Coding lessons in mainstream school as part of the computing curriculum – children as young as 6 years old are receiving lessons on 'coding' - understanding the codes to create games, as well as presentation. Are these topics being provided for deaf children?.
- More information about Computing as a curriculum for young children – which includes safe guarding, language development and how to access for help.
- Gaming consoles to provide access to education apps and e-learning. Are they being made accessible for deaf young people, e.g. subtitles etc?
- APPS What education apps are currently fully accessible for deaf learners? Provide a list/categorise the apps
- Are subtitles sufficient? When, at what point, and why should interpreters be included?
- How Social Media Empowers and Connects People – D/deaf and Hearing | Deaf Unity
- Data Privacy: How much are we aware of it? Article 8 of the European Convention for the Protection of Human Rights and Fundamental Freedoms on social media platforms.
- Training – being access smart for special needs and deaf people.
- How can parents best support mental health in young people.
- Specialist websites such as Netaware have been found to lack British Sign Language Interpretation –: Net Aware: Your guide to social networks, apps and games (net-aware.org.uk) NSPCC funded.
- How many essential websites are similarly inaccessible?
- Data Protection: concerns over too much personal data is being kept by the school, which goes against the GDPR / Data Protection Act principle of data minimisation – to research more

## **Useful links**

**National Deaf Children's Society** [www.ndcs.org.uk](http://www.ndcs.org.uk) and [www.buzz.org.uk](http://www.buzz.org.uk)

A dedicated 'buzz' site for deaf teens and young people, this site provides a platform and a voice.

## **RNID**

RNID is a UK-wide charity providing practical support and advice for people with hearing loss and tinnitus. It also provides day-to-day care, communication services and training, as well as campaigning to change public policy around hearing loss issues and supporting research into a cure.

Visit [www.actiononhearingloss.org.uk/](http://www.actiononhearingloss.org.uk/)

British Deaf Association (BDA)

The BDA is a UK-wide membership organisation and registered charity run by Deaf people for Deaf people. It delivers a range of services to achieve its aims of empowering Deaf people to overcome difficulties that they face on a daily basis. [www.bda.org.uk](http://www.bda.org.uk)

Hearing Link [shop.hearinglink.org](http://shop.hearinglink.org)

Hearing Link is a UK-wide charity for people with hearing loss, their families and friends. It aims to help people adjust to the practical and emotional challenges that hearing loss can bring – offering shared experiences, practical support and guidance.

Specialist suppliers – contact details

Specialist suppliers of assistive technology for people with hearing loss include:

- - [rnid.org.uk](http://rnid.org.uk)
- Connevans - [www.connevans.co.uk/page/index](http://www.connevans.co.uk/page/index)
- Gordon Morris - [www.gordonmorris.co.uk](http://www.gordonmorris.co.uk)
- Hearing Link - [shop.hearinglink.org](http://shop.hearinglink.org)

**Ruth Montgomery/RubbenA Aurangzeb-Tariq**

## **Project Description:**

### **Research includes:**

- Project online meeting with Ken and Rubbena
- Weekly Updates with Rubbena throughout August, Sept, October and November
- ChatLog – making inclusive content
- Reporting and writing on internet safety information
- Mental Health wellbeing amongst young people and discussing with deaf parents
- Contacting deaf teachers, conducting field research
- Online surveys
- Online Zoom workshop with CODA (Children of Deaf Adults) 1.5 hours October half term
- Personal discussion with young people with mental health challenges during covid times & embracing or disregarding technology
  
- Report writing with interpreter support
- Discussion with interpreters with their connections to support Deaf people – a definite increase of remote interpreting since the pandemic

- Rubbena Visiting Royal School for the Deaf, Derby to carry out the questionnaire and discussion with the specialist teachers of the deaf
- Researching and contacting Deaf Organisations' involvement in response to the pandemic
- Technology advances/benefits – research and list

## References:

### Schools

Frank Barnes School

Mary Hare School

Blanche Neville School

Royal School for the Deaf Derby

### Web links

The British Society for Mental Health and Deafness [BSMHD-Coronavirus-Impact-Guidance-for-GPs-FINAL-1.pdf](#)

[Tackling inequalities in health – Deaf mental health research - Swansea University](#)

### Mental Health

[What to do if your child needs mental health support \(https://signhealth.org.uk\)](https://signhealth.org.uk)

[Net Aware: Your guide to social networks, apps and games \(net-aware.org.uk\)](https://net-aware.org.uk)

[How Social Media Empowers and Connects People – D/deaf and Hearing | Deaf Unity](#)

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1. Age group

	Percent
13	33%
14-15	67%
16-18	0%
19-20	0%
20+	0%
Totals	100%

2. What technology do you have at home?

	Percent
Smart phone	17%
Tablet/iPad/Kindle	0%
Games Consoles (any)	17%
None of the above	0%
All	67%
Totals	100%

3. How were you?

	Percent
My mood changes every day	83%
I did not do anything	0%
I did not enjoy doing anything	0%
I did not sleep much	17%
I found it difficult to concentrate	0%
Totals	100%



4. What did you feel?

	Percent
No motivation	0%
Bored	50%
Annoyed	0%
Sad	25%
No confidence to use technology at home	25%
Totals	100%

5. Did you know .....

	Percent
Zoom	17%
Skype	0%
Face Time	0%
Messenger	0%
WhatsApp	50%
All	33%
Totals	100%

6. Which do you like to use, the most?

	Percent
Zoom	0%
Skype	0%
Face Time	0%
Messenger	40%
WhatsApp	60%
Totals	100%

7. What do you think about Coronavirus?

	Percent
Good	0%
Bad	42%
I have no worries	29%
I don't care	29%
Totals	100%

8. Lockdown - what was it like?

	Percent
Good	0%
Bad, did nothing	43%
Happy, enjoyed it	43%
Worried	14%
OK	0%
Totals	100%

9. Lockdown – what did you do?

	Percent
Gaming	57%
YouTube	14%
Social Media	14%
Sleeping	14%
Nothing/Boring	0%
Totals	100%

10. Did you miss anything?

	Percent
Yes, school/college	0%
Yes, friends	33%
Yes, activities	17%
No, happy to stay at home	50%
Totals	100%

11. How did you find out about Covid-19?

	Percent
Family	43%
School / College	14%
Social Media	0%
News	29%
BSL updates	14%
Totals	100%

12. Did you understand the news updates?

	Percent
Yes	43%
No	43%
I did not watch the News	14%
Totals	100%

13. Did you communicate with friends? How?

	Percent
FaceTime	0%
Zoom	0%
WhatsApp	50%
Instagram	17%
Glide	0%
Other	33%
None	0%
Totals	100%

14. Have you heard of Zoom?

	Percent
Yes	100%
No	0%
Totals	100%

15. Have you used Zoom? Good or bad?

	Percent
Good	20%
Poor	20%
Not used it	60%
Totals	100%

16. How did you cope every day?

	Percent
Really good	14%
Not really good	43%
I copied fine	43%
Totals	100%

17. What was your mood like?

	Percent
OK	14%
Fed up	43%
Sad	29%
Happy	0%
Good	14%
Totals	100%

18. What did you find difficult?

	Percent
Being alone	60%
Talking with family	40%
Communication with friends	0%
No sign language at home	0%
No BSL support	0%
Fear of illness	0%
Totals	100%

19. What else did you find difficult?

	Percent
No money for good video calls	0%
Old phone/computer	0%
Sounds not clear	0%
Poor Wi-Fi	67%
No data	0%
Family bothering me	33%
Totals	100%

1. Age group

	Percent
14-15	100%
16-18	0%
19-20	0%
20+	0%
Totals	100%

2. What technology do you have at home?

	Percent
Smart phone	0%
Tablet/iPad/Kindle	33.33%
Games Consoles (any)	33.33%
None of the above	0%
All	33.3%
Totals	100%

3. How were you?

	Percent
My mood changes every day	25%
I did not do anything	0%
I did not enjoy doing anything	0%
I did not sleep much	0%
I found it difficult to concentrate	25%
No motivation	0%
Bored	50%
Annoyed	0%
Sad	0%
No confidence to use technology at home	0%
Totals	100%

4. Did you know .....

	Percent
Zoom	0%
Skype	0%
FaceTime	25%
Messenger	0%
WhatsApp	0%
All	75%
Totals	100%

5. What do you like to use?

	Percent
Zoom	50%
Skype	0%
FaceTime	25%
Messenger	25%
WhatsApp	0%
Totals	100%

6. What do you think about Coronavirus?

	Percent
Good	0%
Bad	33.33%
I have no worries	33.33%
I don't care	33.33%
Totals	100%

7. Lockdown - what was it like?

	Percent
Good	20%
Bad, did nothing	20%
Happy, enjoyed it	20%
Worried	0%
OK	40%
Totals	100%

8. Lockdown – what did you do?

	Percent
Gaming	50%
YouTube	0%
Social Media	0%
Sleeping	50%
Nothing/Boring	0%
Totals	100%

9. Did you miss anything?

	Percent
Yes, school/college	0%
Yes, friends	66.67%
Yes, activities	0%
No, happy to stay at home	33.33%
Totals	100%



10. How did you find out about Covid-19?

	Percent
Family	0%
School/College	60%
Social Media	0%
News	40%
BSL updates	0%
Totals	100%

11. Did you understand the news updates?

	Percent
Yes	50%
No	0%
I did not watch the News	50%
Totals	100%

12. Did you communicate with friends? How?

	Percent
FaceTime	40%
Zoom	0%
WhatsApp	20%
Instagram	0%
Glide	20%
Other	20%
None	0%
Totals	100%

13. Have you heard of Zoom

	<b>Percent</b>
Yes	100%
No	0%
Totals	100%

14. Have you used Zoom? Good or bad?

	<b>Percent</b>
Good	40%
Poor	40%
Not used it	20%
Totals	100%

15. How did you cope every day?

	<b>Percent</b>
Really good	50%
Not really good	0%
I copied fine	50%
Totals	100%

16. What was your mood like?

	<b>Percent</b>
OK	60%
Fed up	20%
Sad	0%
Happy	0%
Good	20%
Totals	100%

17. What did you find difficult?

	Percent
Being alone	66.67%
Talking with family	0%
Communication with friends	33.33%
No sign language at home	0%
No BSL support	0%
Fear of illness	0%
Totals	100%

18. What else did you find difficult?

	Percent
No money for good video calls	0%
Old phone/computer	0%
Sounds not clear	0%
Poor Wi-Fi	100%
No data	0%
Totals	100%

1. Age group

	Percent
14-15	67%
16-18	17%
19-20	0%
20+	17%
Totals	100%

2. What technology do you have at home?

	Percent
Smart phone	0%
Tablet/iPad/Kindle	0%
Games Consoles (any)	33%
None of the above	0%
All	67%
Totals	100%

3. How were you?

	Percent
My mood changes every day	20%
I did not do anything	0%
I did not enjoy doing anything	0%
I did not sleep much	2%
I found it difficult to concentrate	0%
No motivation	0%
Bored	40%
Annoyed	20%
Sad	0%
No confidence to use technology at home	0%
Totals	100%

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4. Did you know .....

	Percent
Zoom	0%
Skype	0%
Face Time	0%
Messenger	0%
WhatsApp	0%
All	100%
Totals	100%

5. Which do you like to use?

	Percent
Zoom	0%
Skype	0%
Face Time	40%
Messenger	60%
WhatsApp	0%
Totals	100%

6. What do you think about Coronavirus?

	Percent
Good	33.33%
Bad	33.33%
I have no worries	16.67%
I don't care	16.67%
Totals	100%

7. Lockdown - what was it like?

	Percent
Good	0%
Bad, did nothing	0%
Happy, enjoyed it	66.67%
Worried	0%
OK	33.33%
Totals	100%

8. Lockdown – what did you do?

	Percent
Gaming	0%
YouTube	0%
Social Media	50%
Sleeping	50%
Nothing/Boring	0%
Totals	100%

9. Did you understand the news updates?

	Percent
Yes	50%
No	50%
I did not watch the News	0%
Totals	100%

10. How did you find out about Covid-19?

	Percent
Family	16.67%
School/College	0%
Social Media	50%
News	33.33%
BSL updates	0%
Totals	100%

11. Did you communicate with friends? How?

	Percent
FaceTime	60%
Zoom	0%
WhatsApp	0%
Glide	0%
Other	20%
None	0%
Totals	100%

12. Have you heard of Zoom?

	Percent
Yes	85%
No	15%
Totals	100%

13. Have you used Zoom? Good or bad?

	<b>Percent</b>
Good	20%
Poor	20%
Not used it	60%
Totals	100%

14. How did you cope every day?

	<b>Percent</b>
Really good	33.33%
Not really good	33.33%
I copied fine	33.33%
Totals	100%

15. What was your mood like?

	<b>Percent</b>
OK	28.57%
Fed up	14.29%
Sad	28.57%
Happy	0%
Good	28.57%
Totals	100%



16. What did you find difficult?

	Percent
Being alone	0%
Talking with family	33.33%
Communication with friends	0%
No sign language at home	33.33%
No BSL support	0%
Fear of illness	33.33%
Totals	100%

17. What else did you find difficult?

	Percent
No money for good video calls	0%
Old phone/computer	0%
Sounds not clear	20%
Poor Wi-Fi	20%
No data	60%
Totals	100%

1. Age group

	Percent
13	0%
14-15	0%
16-18	55.56%
19-20	33.33%
20+	11.11%
Totals	100%

2. What technology do you have at home?

	Percent
Smart phone	10%
Tablet/iPad/Kindle	10%
Games Consoles (any)	20%
None of the above	0%
All	60%
Totals	100%

3. How were you?

	Percent
My mood changes every day	33.33%
I did not do anything	11.11%
I did not enjoy doing anything	11.11%
I did not sleep much	22.22%
I found it difficult to concentrate	22.22%
Totals	100%

4. What did you feel?

	Percent
No motivation	22.22%
Bored	33.33%
Annoyed	11.11%
Sad	0%
No confidence to use technology at home	33.33%
Totals	100%

5. Did you know .....

	Percent
Zoom	0%
Skype	0%
Face Time	0%
Messenger	0%
WhatsApp	0%
All	100%
Totals	100%

6. Which do you like to use the most?

	Percent
Zoom	0%
Skype	0%
Face Time	33.33%
Messenger	44.44%
WhatsApp	22.22%
Totals	100%

7. What do you think about Coronavirus?

	Percent
Good	0%
Bad	54.55%
I have no worries	9.09%
I don't care	36.36%
Totals	100%

8. Lockdown - what was it like?

	Percent
Good	0%
Bad, did nothing	30%
Happy, enjoyed it	10%
Worried	20%
OK	40%
Totals	100%

9. Lockdown – what did you do?

	Percent
Gaming	44.44%
YouTube	11.11%
Social Media	11.11%
Sleeping	11.11%
Nothing/Boring	22.22%
Totals	100%

10. Did you miss anything?

	Percent
Yes, school/college	9.09%
Yes, friends	72.73%
Yes, activities	18.18%
No, happy to stay at home	0%

Totals	100%
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11. How did you find out about Covid-19?

	Percent
Family	0%
School/College	9.09%
Social Media	27.27%
News	54.55%
BSL updates	9.09%
Totals	100%

12. Did you understand the news updates?

	Percent
Yes	77.78%
No	0%
I did not watch the News	22.22%
Totals	100%

13. Did you communicate with friends? How?

	Percent
FaceTime	63.64%
Zoom	0%
WhatsApp	18.18%
Instagram	9.09%
Glide	0%
Other	9.09%
None	0%
Totals	100%

14. Have you heard of Zoom?

	Percent
Yes	75%
No	25%
Totals	100%

18. Have you used Zoom? Good or bad?

	Percent
Good	40%
Poor	20%
Not used it	40%
Totals	100%

19. How did you cope every day?

	Percent
Really good	11.11%
Not really good	33.33%
I copied fine	55.56%
Totals	100%

20. What was your mood like?

	Percent
OK	33.33%
Fed up	33.33%
Sad	0%
Happy	22.22%
Good	11.11%
Totals	100%

21. What did you find most difficult?

	Percent
Being alone	50%
Talking with family	0%
Communication with friends	0%
No sign language at home	25%
No BSL support	25%
Fear of illness	0%
Totals	100%

22. What else did you find difficult?

	Percent
No money for good video calls	11.11%
Old phone/computer	11.11%
Sounds not clear	33.33%
Poor Wi-Fi	33.33%
No data	0%
Family bothering me	11.11%
Totals	100%