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AI statement

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An exploration into the effects of screen time on children's speech and language development

Literature review

This assignment will explore the effects of screen time on children's speech and language development. This topic is of interest to the researcher as there is worry about the impact of technology such as smartphones and tablets on children's development as it changes rapidly. It is important that research about the effects of screen time is undertaken to ensure that parents and practitioners can make educated choices regarding the use of screen time and the effects (University of Cambridge, 2025). The topic is also important as problems with speech and language are becoming more common in the early years and is the most common barrier to children's development as it can affect a child's social skills and education (Putu Dianisa Rosari Dewi et al., 2023).

A Scoping review by Karani, Sher and Mophosho (2022) found that many children are watching up to 3 hours of screen time a day instead of the recommended time of one hour, many care givers allowing children to have screen time when they are working or busy to keep the children occupied. Many caregivers also believe that screen time is beneficial to their child's education and development (Karani, Sher and Mophosho, 2022). There are many factors to screen time which may affect a child's speech and language such as the type of programme, the length of time watching and the presence of an adult. Research shows there is an association between the length of

screen time and delays in children's speech and language. In addition to this, the research found that television that is on in the background that children cannot understand is disruptive to children's play and interactions with the caregiver which can result in limited vocabulary and delay linguistic development (Karani, Sher and Mophosho, 2022). Research found that screen time that is child-led often results in speech and language difficulties. However, the presence of an adult can ensure the material being watched is appropriate and rich in language. Studies also found that the age in which children experience screen time can influence speech and language as it is not recommended below the age of two. In contrast to this, the review revealed that screen time for children older than two can have a positive effect as it may extend children's vocabulary and repetition can support them to learn new words (Karani, Sher and Mophosho, 2022).

In addition to this, similarities were found during a study of Filipino children between the ages of two and three. The study found that two or more hours of screen time is linked to lower speech and language outcomes. However, the study discovered that children would need to have screen time for four to five hours to see an impact on their social skills and play (Dy, Dy and Santos, 2023)

Researchers in Bali who were studying the link between screen time and speech and language with 167 children between the ages of one and two also found that a daily screen time of two hours or more can maximise the possibility of problems with speech and language in children of this age group (Putu Dianisa Rosari Dewi et al., 2023). This research also suggests children find it difficult to acquire new language from screen time and that screen time influences the child's relationship and time with caregivers, therefore having a negative effect on children's speech and language (Putu Dianisa Rosari Dewi et al., 2023).

To further support this, Marquez, (2023) also states that research shows that excessive screen time may limit children to develop their linguistic skills and gross motor skills. Research also shows that background television can affect children's speech and language development as it can distract children from socialising and interacting with the adults around them. The research states there is lack of proof that there is any positive effect of children being exposed to screen time under the age of two years

old. However, similarly to the first set of research, evidence shows that educational television or educational games may have a positive effect on older children's speech and language (Marquez,2023).

Nelson, (2024) identifies the importance of care givers providing babies and young children with experiences off screen to develop their linguistic skills and overall development. Research undertaken by Patricia Kuhl, a brain specialist that has conducted tests with thousands of babies each year, highlights that babies do not learn from devices such as phones or television. Babies learn best through communication and interaction with humans (Nelson,2024).

This research is valuable; however, it highlights several negative effects of screen time on children's speech and language and fails to highlight in depth the positive effects of screen time on children's speech and language development. When completing this assignment, it is important for the researcher to gain an in-depth understanding of both positive and negative effects to complete the research project without bias. The research shows that there is a need for more research to be completed to study the link between screen time and language development.

However, throughout their education, children will be exposed to screen time. There is a new curriculum in Wales, and the curriculum conveys the importance of science and technology in our ever-changing world. This part of the curriculum is important for children as it will provide them with many opportunities in the future and develop their independence. Practitioners' role is to provide opportunities for learning to ensure children are digitally competent. To achieve this, children will need access to a range of technologies and devices such as an iPad and computers (Welsh Government, n.d.) Considering the strong research on the effect of screen time on children's speech and language, practitioners can put strategies into place such as providing opportunities for hands on learning wherever possible. This may include drawing, writing or constructing as this will also further develop both their fine motor skills and language skills. Practitioners may also differentiate teaching methods to include less screen time (Brain Balance,n.d).

Methodology

Research methods

Research methods mean the process in which the researcher will collect data to discover new findings and gain a deeper understanding of a chosen topic (University of Newcastle Library,2023). When researching with children it is important that the researcher understands the most appropriate research methods to use. To do this the researcher can look at current curriculum guidance such as the Early Years Foundation Stage Development Matters Framework. This framework is also aimed towards the age group the researcher is targeting (Department for Education,2023). There are many methods in which to collect data. The researcher can use qualitative research such as observations, focus groups and interviews. This type of research can support the researcher to gain more knowledge and discuss the interviewee's opinions and feelings regarding the topic. The researcher can also use quantitative data which includes surveys, experiments or looking at data that already exists. This type of research involves numbers and looking at these numbers to gain data. There is also a mixed methods approach to research which combines both qualitative and quantitative methods (Taylor,2024). The advantage of qualitative research is that it efficient to provide particular information the researcher is looking for such as people's opinions and beliefs. Similarly, qualitative data can also provide researchers with a greater understanding of the participants personal life or past experiences by asking inquiry questions such as what, how and why. Qualitative data can also strengthen findings collected through quantitative research methods (Oranga and Matere, 2023). However, there are limitations to qualitative data as collecting qualitative data can be time consuming and relies on the honesty and fairness of both the participant and researcher. Another limitation of qualitative research is that it requires preparation, and it can be hard to collect data (Queirós, Faria and Almeida, 2017). The advantage of quantitative research is that it is reliable, can be collected quickly and requires little preparation. In addition to this, it is easier to evaluate the findings (Choy,2014). However, Rahman (2016) states that there are limitations to quantitative research as it can lack detail and depth. According to Oranga (2025) mixed method research has many strengths as it provides the researcher with in-depth knowledge of the topic, the research is reliable and valid due to triangulation. However, Oranga (2025) also states that limitations of mixed method research include the research process being more

time consuming and costly and the researcher will need to have in-depth knowledge of both qualitative and quantitative research methods to combine the two methods accurately.

The researcher will use a mixed methods approach to explore the effects of screen time on children's speech and language. The researcher will be using a mixed method approach as it can add depth to the study, ensures the findings are more reliable and limit limitations. However, limitations to using a mixed methods approach include making research complicated to complete and may require extra resources and a longer time frame (Office for Health Improvement and Disparities, 2020). The first method the researcher will use is a questionnaire. The online questionnaire will be sent out to parents of children in a nursery class with questions regarding their screen time at home. A questionnaire or survey is a list of questions where people can give their views and opinions. Questionnaires are useful to gather a wide range of data (Roopa and Rani, 2012). The questionnaire will be related to the topic of the effects of screen time on children's speech and language and can provide both quantitative and qualitative data depending on the questions asked and the type of response such as ticking a box or writing a response. The researcher will give thought to the questions and design of the questionnaire to ensure the information is concise and relevant. They will also use a variety of questions such as open, closed questions and contingency questions to ensure accurate and reliable data is collected (Roopa and Rani, 2012). The method of questionnaires has many strengths such as being more practical, budget friendly and efficient. Questionnaires can also be anonymous which protects the privacy of the participant, this is important as it allows the participant to feel more relaxed. When a participant feels relaxed, they are more likely to answer questions honestly which will ensure data collected is valid and reliable (JAIN, 2023). Similarly, Patten, (2016) also states that questionnaires are efficient and effective, and it is easier method to gather data and find patterns. Patten, (2016) also agrees that questionnaires protect the participants privacy and can be more cost effective. Limitations of questionnaires include the participants understanding of the questions and language used in the questionnaire. Additionally, there can be bias from the researcher and questionnaires often have inadequate feedback which may weaken the researcher's findings. Participants may also provide dishonest answers to questions due to fear or

embarrassment (JAIN,2023). Patten, (2016) supports and agrees with these limitations and states participants often do not respond to questionnaires and they are not always honest as they often give answers that are more socially acceptable.

The researcher will also use observations to support their research on the effects of screen time on children's speech and language. Observations can be carried out when the participants know they are being observed, known as overt or where the participants do not know they are being observed, also known as covert observations (Duke University Libraries, 2010). The researcher will be using overt observations as the benefits such as the reliability of the findings and children not changing their behaviour outweighs the limitations such as the ethical worry of deception (Roulet et al., 2017). Observations in the early years means that practitioners and researchers can gain an insight and understanding of children, what they know and how they learn by listening and watching children in the setting or during an activity (Sharman, Cross and Vennis, 2015). Observation is important in the early years as it can give practitioners and researchers a true depiction of children's learning and development (Sharman, Cross and Vennis,2015). The method of observation will produce valuable qualitative research as Friedrich Froebel believed that practitioners could discover plenty about children by observation through different types of play, alongside other children and alone. He believed that it was crucial for practitioners to use observations to gain a deeper insight and encourage children's holistic development (Louis, 2022).

The strengths of observations include gaining a deeper understanding of the sample, practitioners can also use the findings of the observational research to support children with speech and language difficulties and put strategies, extra resources or interventions into place to support the child's holistic development (Louis,2022). In addition to this, Lashley, (2017) also states that observation collects detailed data and notes that there is unlikely to be a change in the children's behaviour as the researcher will already be a part of their learning environment.

Oswald, Sherratt and Smith, (2014) suggest that the limitations of observation include the Hawthorne effect. The Hawthorne effect is known as a participant altering how they would normally act as they are aware their behaviour is being analysed. There can be many causes of the Hawthorne effect including the participant enjoying the attention

they are receiving from the researcher as this may make them feel noticed and acknowledged. They may also feel a worry to preform to a good standard, or the standard expected of them, which will also alter their behaviour. Finally, they may also see being observed as an incentive to gain praise or a reward (Ingram,2023). To avoid the Hawthorne effect researchers could have a sperate group or sample that are not regularly observed to compare to the original sample. In addition to this, another way to avoid the Hawthorne effect is through triangulation.

Triangulation involves the use of more than one research method or researcher and is used to strengthen the data found and can be used to compare, analyse and find similarities within the research (Oswald, Sherratt and Smith,2014) Strengths of triangulation include ensuring data collected is accurate and reliable and also prevents bias. However, Hammond and Wellington,(2021) suggest the limitations of triangulation include the cost and time of collecting multiple sets of data. The researcher will use triangulation to compare the quantitative data collected from the questionnaires with the qualitative data collected from the observations.

Another limitation of the observation method is the Halo effect. The Halo effect is when a person has preconceived ideas about another person which can be due to past beliefs or experiences. For example, if a child excels in one area a practitioner may be biased and believe they are exceptional in all areas of learning and development (Schultz, n.d.). The halo effect can affect research as it may not be accurate or reliable due to bias. It also only focuses on the positives and does not look at their weaknesses or aspects they need to improve; this will affect the children's holistic development as their needs are overlooked and not supported (Schultz,n.d). In contrast to this, there is also a horn effect which means having preconceived negative thoughts about others and their appearance, behaviour or ability (Noor *et al.*, 2023). The researcher must take into consideration and be aware of both the halo effect and the horn effect as the research shows it can negatively affect the research outcome.

The sample

A sample consists of the children or people the researcher intends to use to gather information on a chosen topic (Coolican, 2024). The sample the researcher has chosen to discover the effect of screen time on children's speech and language is a class of 30 nursery children between the ages of 3 and 4. Sample size is important as if the sample is too small the researcher may struggle to get responses and find it hard to analyse the data. However, a sample size too large may cause confusion and take more time and money (Kar and Ramalingam, 2013). This will be studied through observations of the children and questionnaires to the parents or carers. The researcher has chosen this sample as they are working in the nursery classroom, also known as convenience sampling. Convenience sampling means that the participants are easily accessible by the researcher. The benefits of convenience sampling include being cost effective, takes less time and is easier gather and collect information. However, limitations of convenience sampling can include being the results not being accurate due to bias and preconceptions of the researcher (Gaille, 2020).

Ethics

When conducting their research project, the researcher must consider research ethics. This is important because considering research ethics can support the participants and improve the data collected (UK Research and Innovation, 2023).

Consent is when a person acknowledges what you want them to do, and they allow it or participate in an activity as they do not feel pressured. This is also voluntary consent. Informed consent means the participants know what is being asked, why it is being completed, and participants must also be aware of any threats they may face or benefits (Care Learning, 2025). The researcher must also ensure the participant is able to independently make decisions, known as having the capability to consent. For children or adults with additional learning needs the researcher would need to refer to the Mental Capacity Act 2005 (Care learning, 2025). As the children in the study of the effects of screen time on speech and language will be under the age of 16 consent will need to be obtained from a parent or carer before conducting research. For this research project the researcher will send a letter detailing the intended research plan and give parents the opportunity to opt out (Department for Education, 2023)

Prior to completing the research, Researchers will need to make sure they are following the General Data Protection Regulation when gaining consent. They can do this by ensuring the participants confidentiality is protected, ensuring they have all the relevant information and time to process it and come to a decision, answering any queries and gaining a written copy of consent (Thourani, 2022). Gaining informed consent is important because it ensures the researcher is respecting the participants as individuals by respecting their wishes and their rights. It is also important as it builds a relationship between the researcher and participants as they feel protected and assured (World Council for Health, 2021). It is also a crucial part of ethics that the participants have the right to withdraw from the study, and they also have a right to not to respond to questions they feel uncomfortable with (UK Research and Innovation, 2024). If participants were to withdraw from the researcher's study looking at the effects of screen time on children's speech and language it would affect the data and its reliability due to the sample size.

It is important that participants or participants parents or carers are given an information sheet. An information sheet outlines the research project and its intentions, ensuring the reader can understand the terms and language used. Information sheet will state how the research will be conducted, when, where and why it is being conducted. The researcher may give multiple information sheets depending on the sample and looking at individual needs and ability. There is no correct layout of the information if it contains appropriate wording, a large enough font size and ensuring it is separated by titles and paragraphs for clarity (University College London, 2023).

Risk means that there is a chance of harm to the participant or researcher and University. Any possible risks should be outlined in the information sheet or when gaining consent from the participants (HREC, 2021). Researchers are responsible for the safety and wellbeing of the participants in the study, therefore it is important to be mindful of risks to protect the participants overall health and development (University of Sunderland, 2023). There are many possible risks when conducting a research project. There is risk for the researcher as the project may affect the researcher's emotional wellbeing if it is a controversial or difficult topic. This may take an emotional

toll on the researcher if it is a topic they can relate to or there may be at risk of volatility, aggression and disagreements (Stahlke,2018).

There are also potential risks to the university as it could face financial loss. The financial loss may be from a decline in applications to the university or course as another risk is the Universities reputation. If the research project is not completed well and does not consider research ethics this may reflect badly on the university and have an impact on their reputation. The university could also face legal action if the researcher were to commit a crime when completing their research project (University of Essex, 2022).

The participant may face risks such as safeguarding as the children may feel uncomfortable, become stressed, or make accusations. One of the most important risks to the children is the possibility of causing emotional harm (NSPCC,2023). The researcher can reduce these risks by ensuring they gain consent from the children's parents or carers. The researcher can also ensure both the participants have an in-depth understanding of the research project; they understand the language and their needs are met. When collecting data the researcher can ensure the research is conducted in a familiar, safe environment to reduce the risk of emotional distress. the researcher can also minimise risk by maintaining confidentiality, this is important to build trust with the participants and respect their privacy (NSPCC, 2023).

The data will be collected and stored following General Data Protection Regulation to ensure confidentiality and privacy. The data from the observations will be collected through note taking. These notes will be kept in a locked drawer which only the researcher can access. The researcher will ensure they are stored safely and only kept for the agreed time period. Data from the questionnaires will be stored on a password protected computer with the files also password protected. The computer will have anti-virus software and stored securely. These will also only be kept for the agreed time period (GOV.UK,2018).

Brain Balance. (n.d.). *Tips for Managing Too Much Screen Time at School*. Available at: <https://www.brainbalancecenters.com/blog/tips-managing-much-screen-time-school>. (Accessed 7/5/2025)

Care Learning (2025). *1.3 Explain what is meant by 'valid consent' – Care Learning*. Care Learning. Available at: <https://carelearning.org.uk/qualifications/level-3-diploma-care/ac-mc10-restrictive/1-3-explain-what-is-meant-by-valid-consent/>. (Accessed 10/5/2025).

Choy, L.T. (2014). The strengths and weaknesses of research methodology: Comparison and complimentary between qualitative and quantitative approaches. *IOSR Journal of Humanities and Social Science*, 19(4), pp.99–104. Available at: <https://iosrjournals.org/iosr-jhss/papers/Vol19-issue4/Version-3/N0194399104.pdf>.

Coolican, H. (2024). *Research Methods and Statistics in Psychology*. 8th ed. London: Routledge.

Department for Education (2023). *Research With Children and Young People*. Department for Education User Research Manual. Available at: <https://user-research.education.gov.uk/guidance/ethics-and-safeguarding/research-with-children-and-young-people>. (Accessed 12/5/2025).

Duke University Libraries (2010). *LibGuides: Qualitative Research: Observation*. Duke.edu. Available at: <https://guides.library.duke.edu/c.php?g=289813&p=1934020> (Accessed 7/5/2025).

Dy, A.B.C., Dy, A.B.C. & Santos, S.K. 'Measuring effects of screen time on the development of children in the Philippines: a cross-sectional study'. *BMC Public Health* **23**, 1261 (2023). <https://doi.org/10.1186/s12889-023-16188-4>

Gaille, L. (2020). *15 Advantages and Disadvantages of Convenience Sampling*. [online] Vittana.org. Available at: <https://vittana.org/15-advantages-and-disadvantages-of-convenience-sampling>. (Accessed 10/5/2025).

GOV.UK (2018). *Managing User Research Data and Participant Privacy*. GOV.UK. Available at: <https://www.gov.uk/service-manual/user-research/managing-user-research-data-participant-privacy> (Accessed 15.5.25).

Hammond, M. and Wellington, J.J. (2021). *Research methods : the key concepts*. 2nd ed. London: Routledge.

HREC (2021). *Guideline: Harm and Risk in Research*. Available at: <https://www.ucd.ie/researchethics/t4media/HRECG3%20Harm%20and%20Risk%20in%20Research%20%20-%20140921.pdf> (Accessed 15/5/2025).

JAIN, D. (2023). *16 Advantages and Disadvantages of Questionnaires + Examples*. [online] EDUCBA. Available at: <https://www.educba.com/advantages-and-disadvantages-of-questionnaires/> (Accessed 7/5/2025).

Janelle Marquez(2023). *Myth-busting: Screen-time*. Speech and Language UK: Changing young lives. Available at: <https://speechandlanguage.org.uk/about-us/news-and-blogs/myth-busting-screen-time/>.

Kar, S.S. and Ramalingam, A. (2013). Is 30 the magic number? issues in sample size estimation. *4(1)*, pp.175–179. Available at: https://www.researchgate.net/publication/309697492_Is_30_the_magic_number_issues_in_sample_size_estimation.

Karani, N.F., Sher, J. and Mophosho, M. (2022). 'The influence of screen time on children's language development: A scoping review'. *South African Journal of*

Communication Disorders, 69(1), p.7. Available at:
<https://sajcd.org.za/index.php/sajcd/article/view/825>.

Lashley, M. (2017). Observational Research, Advantages and Disadvantages. *The SAGE Encyclopedia of Communication Research Methods*. doi:<https://doi.org/10.4135/9781483381411.n384>.

Louis, S. (2022). *Observing young children*. Froebel Trust. Available at:
https://www.froebel.org.uk/uploads/documents/FT_Observing-young-children_Pamphlet_INTERACTIVE_REV-2.pdf. (Accessed 10/5/2025).

Nelson, C. (2024). *Babies need humans, not screens*. Unicef. Available at:
<https://www.unicef.org/parenting/child-development/babies-screen-time>.
(Accessed 2/5/2025).

Noor, N., Beram, S., Huat, F.K.C., Gengatharan, K. and Mohamad Rasidi, M.S. (2023). Bias, Halo Effect and Horn Effect: A Systematic Literature Review. *International Journal of Academic Research in Business and Social Sciences*, 13(3). doi:<https://doi.org/10.6007/ijarbss/v13-i3/16733>.

NSPCC (2023). *Research with children: Ethics, safety and promoting inclusion*. NSPCC Learning. Available at: <https://learning.nspcc.org.uk/research-resources/briefings/research-with-children-ethics-safety-promoting-inclusion>
(Accessed 15/5/25).

Office for Health Improvement and Disparities (2020). *Mixed Methods Study*. GOV.UK. Available at: <https://www.gov.uk/guidance/mixed-methods-study>.
(Accessed 7/5/2025).

Oranga, J. (2025). Mixed Methods Research: Application, Advantages and Challenges. *About the Journal Journal of Accounting Research, Utility Finance and Digital Assets*, 3. doi:<https://doi.org/10.54443/jaruda.v3i4.213>.

Oranga, J. and Matere, A. (2023). Qualitative Research: Essence, Types and Advantages. *Open Access Library Journal*, 10(12), pp.1–9. doi:<https://doi.org/10.4236/oalib.1111001>.

Oswald, D, Sherratt, F & Smith, S 2014, 'Handling the Hawthorne effect: The challenges surrounding a participant observer', *Review of Social Studies*, vol. 1, no. 1, pp. 53-73.

Patten, M.L. (2016). *Questionnaire Research : a Practical Guide*. 4th ed. Glendale, Ca: Pyrczak Publishing.

Putu Dianisa Rosari Dewi, Soetjiningsih, Ida Bagus Subanada, I Made Gede Dwi Lingga Utama, I Wayan Dharma Artana, I Made Arimbawa and Ni Nyoman Metriani Nesa (2023). The relationship between screen time and speech delay in 1-2-year-old children. *GSC Advanced Research and Reviews*, 14(2), pp.001–006. doi:<https://doi.org/10.30574/gscarr.2023.14.2.0039>.

Queirós, A., Faria, D. and Almeida, F. (2017). Strengths and Limitations of Qualitative and Quantitative Research Methods. *European Journal of Education Studies*, 3(9), pp.369–387. doi:<http://dx.doi.org/10.46827/ejes.v0i0.1017>.

Rahman, S. (2016). The advantages and disadvantages of using qualitative and quantitative approaches and methods in language ‘testing and assessment’ research: A literature review. *Journal of Education and Learning*, 6(1), pp.102–112. doi:<https://doi.org/10.5539/jel.v6n1p102>.

Roopa, S. and Rani, M. (2012). Questionnaire Designing for a Survey. *The Journal of Indian Orthodontic Society*, 46(4), pp.273–277. doi:<https://doi.org/10.5005/jp-journals-10021-1104>.

Roulet, T.J., Gill, M.J., Stenger, S. and Gill, D.J. (2017). Reconsidering the Value of Covert Research: the Role of Ambiguous Consent in Participant Observation. *Organizational Research Methods*, 20(3), pp.487–517. doi:<https://doi.org/10.1177/1094428117698745>.

Schultz, K. (n.d.). *The Halo Effect: Definition, Examples, & Theory* . The Berkeley Well-Being Institute. Available at: <https://www.berkeleywellbeing.com/halo-effect.html>. (Accessed 10/5/2025).

Sharman, C., Cross, W. and Vennis, D. (2015). *Summative Assessment in the Early Years*. London: Bloomsbury Publishing.

Stahlke, S. (2018). Expanding on Notions of Ethical Risks to Qualitative Researchers. *International Journal of Qualitative Methods*, 17(1).
<https://doi.org/10.1177/1609406918787309>

Taylor, L. (2024). *What is Research Methodology? Definition, Types, & Example*. Journal Publisher Blog. Available at:
<https://www.journalpublisher.co.uk/blog/research-methodology/>. (Accessed 6/5/2025).

Thourani, A. (2022). *Importance of Informed Consent Process in Research & Healthcare*. Revive Research Institute, LLC. Available at:
<https://www.reviveresearch.org/blog/importance-of-informed-consent-process/>. (Accessed 12/5/2025)

UK Research and Innovation (2023). *Risk and benefit*. www.ukri.org. Available at:
<https://www.ukri.org/councils/esrc/guidance-for-applicants/research-ethics-guidance/risk-and-benefit/> (Accessed 15.5.25).

UK Research and Innovation (2024). *Consent*. www.ukri.org. Available at:
<https://www.ukri.org/councils/esrc/guidance-for-applicants/research-ethics-guidance/consent/> (Accessed 12/5/2025).

University of Cambridge. (2025). *Cambridge leads governmental project to understand impact of smartphones and social media on young people*. Available at:
<https://www.cam.ac.uk/research/news/cambridge-leads-governmental-project-to-understand-impact-of-smartphones-and-social-media-on-young>. (Accessed 1/5/2025).

University of Essex (2022). *Research risk assessment | University of Essex*. www.essex.ac.uk. Available at: <https://www.essex.ac.uk/student/postgraduate-research/research-risk-assessment> (Accessed 15/5/2025)

University of Newcastle Library (2023). *Research Methods: What are research methods?* Newcastle.edu.au. Available at:
<https://libguides.newcastle.edu.au/researchmethods> (Accessed 3/5/2015).

University of Sunderland (2023). *Participant and Researcher Safety and Well-Being*. University of Sunderland. (Available 15/5/2025).

Welsh Government(n.d.). *Science and Technology: Designing your curriculum - Hwb*. Available at: <https://hwb.gov.wales/curriculum-for-wales/science-and-technology/designing-your-curriculum/>(Accessed 3/5/2025).

World Council for Health. (2021). *Why is Informed Consent Important? - World Council for Health*. Available at: <https://www.worldcouncilforhealth.org/wchresources/why-is-informed-consent-important/>. (Accessed 12/5/2025).