Bridging the gap: A comprehensive study of technology in relation to enhancing independence and quality of life in people with disabilities

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Why is this significant to investigate?

"AT enhances the ability of people with cognitive limitations to participate in and integrate into an inclusive society" (Heleen Boot et al, 2019)

To consider the impact of assistive technology for those with disabilities.

Technology is advancing and accessibility should be at the forefront of all advancements.

Research Problem

This research is to determine the impact of AT on users with disabilities.

DSA (Disability support allowance).

Users' needs are not being met after AT given (Borg, et al, 2011).

Aims and objectives of this study

1 To investigate current AT and its availability.

2 Collect data ethically from users.

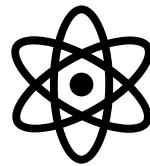**3** To use collected data to confirm whether AT impacts users work.

4 Understand how AT can be developed or changed to better support users.
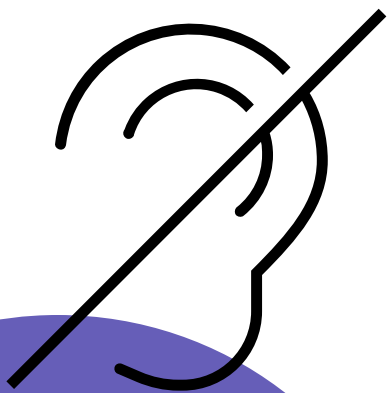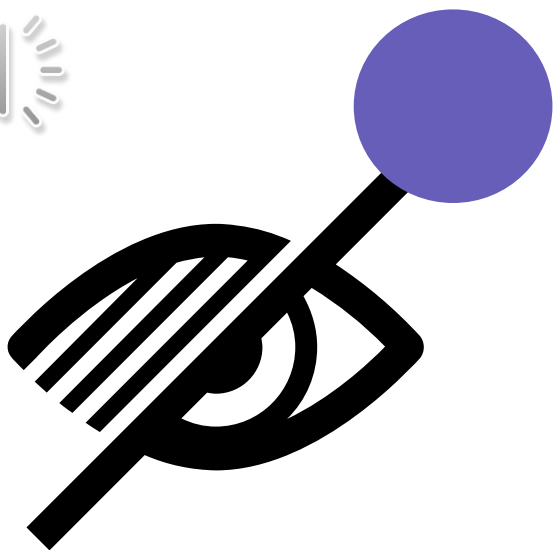
Recent Literature

Learning technology and disability : Overcoming barriers to inclusion : Evidence from a multi-country study. (Hersh & Mouroutsou, 2019)

Ability, Technology, and Flourishing (Parens, 2019)

Key Literature

(Smith, 2021)

- **Assistive technology research: Evidence for a complex and growing field**
- A series of research papers looking into different applications created to support those with disabilities such as an iPad pain application and more.

(Borg, et al, 2011)

- **Assistive technology in developing countries: a review from the perspective of the Convention on the Rights of Persons with Disabilities.**
- A literature review predominantly investigating product reviews on assistive products such as hearing aids etc.

Limitations within current literature

?   Inaccessibility when answering questionnaires or studies and a lack of knowledge (Heleen et al, 2019)

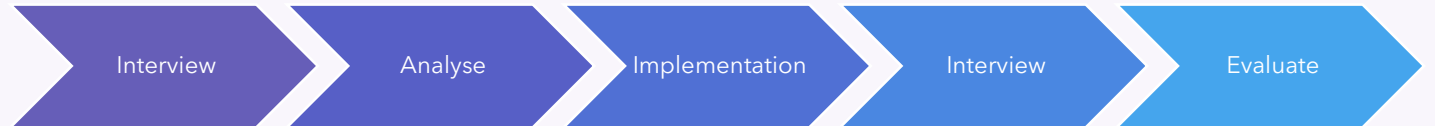💵   Investigating Cheaper alternatives or free AT.

🏠   Covid-19 and the impact of AT when working from home.

Research Design and strategy

Regard open-ended questions with a skilful and systematic approach (Kaplan & Maxwell, 2005)

Interview → Analyse → Implementation → Interview → Evaluate

Correlation research design: Investigate the impact of AT on users work.

Timeline of investigation

Undertakings	1st Quarter					2nd Quarter					3rd Quarter					4th Quarter				
Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Investigate and plan app.																				
Gather first person information/ data on AT usage																				
Analyse findings																				
Implement findings to develop usage impact.																				
Collect usage data and user thoughts.																				
Analyse and evaluate findings.																				

Research risks

Risks or scenarios	Mitigation
Lack of data collection delaying further analysis and evaluation.	Source information from multiple sources. Implement 2 data pools to pull from.
Costs and resources due to duration or data size.	Keep research group small and restricted with set numbers for data pool.
Physical risk such as discomfort or social risk.	Agree with participants of measures to protect their physical and mental health, agree should any AT cause discomfort to stop use of it and go back to planning stage or evaluate the results.

Research Ethics

Risk or Scenario	Mitigation
Collection of personal data following regulations.	Follow ISO data protection and UK GDPR standards while keeping integrity of data. Inform participants of how data will be handled and dispose of data correctly when research is completed. (ISO/IEC, 2018)
Data breach or loss of data	Implement anonymous data by using IDs for participants.
Following the Equality act 2010.	Protect people against discrimination on the grounds of protected characteristics by following the Equality act 2010 while conducting research.

Artefacts and further objectives

- Report compiling in-depth interviews.

- Data collected from implementation of suggested AT through created app .

- Evaluation of the correlation between AT and work quality/ease.

Further objectives:

- implement use of app with assessors.

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