FIT5125 Assignment 1b

Research question: "How can we design maker toolkits that are appropriate for people with disabilities?"

Paper	Justification
1. Ellis, K. et al. (2023) '"Piece it together": Insights from one year of engagement with electronics and programming for people with intellectual disabilities', Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems, 14, pp. 1–17. doi:10.1145/3544548.3581401.	This paper covers the use of electronics/programming for intellectual disabilities, and highlights the importance of physical activity, group social support and diverse repetition for developing skills in people with disabilities. With a closely related example, and clear points it highlights for designing maker toolkits, this ranks 1st in likelihood of relevance. The best author here (Stephen Lindsay) has a h-index of 17 and the article has been cited 3 times since 2023.
2. Morra, D. et al. (2024) Makenodes: Opening connected-IOT making to people with intellectual disability, International Journal of Human-Computer Studies. Available at: https://www.sciencedirect.com/science/article/pii/S1071581924001095	This paper evaluates a toolkit to teach intellectually disabled people. While being a toolkit to teach IoT, it showcases "the importance of physical and visual elements, hands-on exploration, and interaction robustness in improving the accessibility of IoT-making toolkits for people with ID" (Morra et al., *Makenodes: Opening connected-IOT making to people with intellectual disability* 2024). With a related example, and also having clear points distinct from the first for designing maker toolkits, this ranks 2nd in likelihood of relevance. The best author here (Franca Garzotto) has a h-index of 44.
3. Cosentino, G. et al. (2021) 'Cobo: A card-based toolkit for co-designing smart outdoor experiences with people with intellectual disability', Lecture Notes in Computer Science, pp. 149–169. doi:10.1007/978-3-030-85623-6_11.	A study "to identify the physical and digital experience that could favour reflection and engagement of the addressed users, and empower them in solving daily-life challenges" (Cosentino et al., *Cobo: A card-based toolkit for co-designing smart outdoor experiences with people with intellectual disability* 2021), the main insights drawn from the study, leading to the design of an interactive toolkit, COBO.

	Being a similar enough goal to our maker toolkit, their methodology warrants a deeper look into. As a case study of a related product that worked, this would rank 3. The best author here (Maristella Matera) has a h-index of 36.
4. Senaratne, H., Ananthanarayan, S. and Ellis, K. (2022) 'Tronicboards: An accessible electronics toolkit for people with intellectual disabilities', CHI Conference on Human Factors in Computing Systems [Preprint]. doi:10.1145/3491102.3517483.	A study on an electronic toolkit evaluated by guided tutorial's success and challenges. Participants were able to create simple circuits, and the paper appears to describe their approach to getting participants to be able to run the toolkit, so it would be an example of what we are trying to do. As a case study of a similar product that worked, this ranks 4 due to lower quality index. The best author here (Swamy Ananthanarayan) has a h-index of 18.
5. Soares Guedes, L. et al. (2022) 'Designing with and for people with intellectual disabilities', Proceedings of the 24th International ACM SIGACCESS Conference on Computers and Accessibility [Preprint]. doi:10.1145/3517428.3550406.	A presumably short and simple paper on a workshop on "enabling researchers to share experiences on how to design for and with people with intellectual disabilities, provide internal support, and establish new collaborations" (Soares Guedes et al., *Designing with and for people with intellectual disabilities* 2022). While likely to not be as in depth, its apparent simplicity makes it worth looking at early. This paper appears to be a broad and general view of how to design, but due to being very short and simple, would likely not take long to look through. As such, it ranks 5. The best author here (Laurianne Sitbon) has a h-index of 26.