



Author	Theme	Empathize	Define	Ideation	Prototype	Test
Aflatoony, 2021 (29)	Co-designing 3D printed assistive technologies (AT) with occupational therapists (OT), designers, and end-users	PW 1: comprehensive clinical assessment of the user's abilities. Limitations goals, OTs identified off-the-shelf AT solutions that meet user's needs.	PW2: Low Fidelity DIY 3D printing prototyping. End users collaborate with OT in co-design AT prototypes	PW 3: Industrial designers act as technical facilitators to translate prototypes into tangible AT solutions	PW 4: Designers as "design thinkers" to actively contribute ideas to identify needs, brainstorm a wide variety of possible solutions an develop custom AT prototypes	Experiences, strengths and weaknesses: focus groups and semi-structured interviews. Device utilization outcome: legibility of end user's handwriting
Benham, 2023 (35)	Mobile device accessibility with 3D printed devices for individuals with physical disabilities	Initial interviews and analysis of previous AT use.	Initial interviews: Self-identified accessibility needs of the mobile device	Choice of designs from catalogue and customization with the team	In 1–2 weeks, the device was custom-made and 3D printed with Creality Ender-3: 3D-printed supports, styluses, and mounts	Quebec User Evaluation of satisfaction with assistive device (QUEST 2.0). Canadian Occupational Performance Measure (COMP) Tests in the user's daily life
Dressen, 2017 (49)	A FabLab as facilitator for personal fabrication of tools to self-manage diabetes	Insights of day-to day issues: Participants with type 1 Diabetes mapped their experience of using self-care and self-management tools daily, together with designers.	Participatory observations and interviews with endocrinologist provided further understanding	Designers and participants collaboratively built scenarios to tackle specific issues. Scenarios were translated into videos and used as an input for FabLab.	Two 3D printed prototypes: system to roll up the thread of the catheter and a clip system to attach toll to the body, through PD workshops with participant with several iterations	Tests in the user's daily life
Higgins, 2022 (33)	Creating 3D Printed Assistive Technology Through Design Shortcuts	Real users worked with teams of PT students to model and design devices	Translating clinical needs into design challenges and communicate with makers	Student-led ideation with real users, using clay models and paper forms	3D printing prototypes (Pencil grips, wrist splints, cylindrical weights for strengthening, and cutlery adapters	Direct feedback on the comfort and functionality of the final 3D printed AT.
Howard, 2024 (30)	Assessing the use of co-design to produce bespoke assistive technology solutions within a current healthcare service	Identification of everyday problems with users in the community by OT and physiotherapists	Prioritization of challenges for activities of daily living	Ideation of solutions with users through sketches or low-fidelity prototypes	Functional prototypes through device development iterative design loop	Quebec User Evaluation of satisfaction with assistive device (QUEST 2.0). Psychosocial Impact of Assistive Devices Scale (PIADS)
Thorsen, 2019 (50)	From patient to maker. A case study	The participant illustrated her impairments and the challenges thy posed, and me a list of ADL task for which she would have liked to become autonomous	Analysis of difficulties in ADL using the Individually Prioritized Problem Assessment (IPPA) questionnaire	Remote co-design editing CAD in real time	Ergonomic handle printed in TPU	Individually Prioritized Problem Assessment (IPPA)
Thorsen 2024 (51)	From patient to maker. People with cerebral palsy	Observation of participants' daily activities through videos	Videos about movement patterns, gripping methods, and eating habits	Digital manufacturing method involving CAD software service, slicing program, 3D printer and a videoconference application. Several iterations	Spoon/fork holder	Individually Prioritized Problem Assessment (IPPA) Quebec User Evaluation of satisfaction with assistive device (QUEST 2.0).

AT: assistive technologies; OT: occupational therapists; PW: participatory workshop; DIY: Do it yourself; PD: Participatory design; PT: Physical therapy; ADL: Activities of daily life; CAD: Computer-aided design; TPU: Thermoplastic Polyurethane