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Recommendations, emerging from the experiences of the EU-project 3DPRINTS:

As part of the activities of the project 3DPRINTS in Barcelona, these topics came up in our conversation in a Focus Group that we held on June 17, 2024. They may be useful for professionals and users in the field of 3D design and printing with people who live with disabilities.

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Topic: Offer adapted training

- Recommendation: Develop and apply empathic skills such as prosocial behaviours in order to detect effectively the needs of the person living with disability. This outcome of the Focus Group confirms the statement of the Project 3DPRINTS that empathy is at the core of applying 3D technology to people with disability.
- Recommendation: Activities to detect the needs of the people with disability can be linked to activities that allow them participation in the decision making. For instance, starting a conversation about “what do you want?”, “what do you need?”, is a step in the direction of providing participation in the decision about “what do you want to design and print?”.
- Recommendation: It may be important to invite to participate although they have not really understood the methodology or technology behind 3D design and printing (e.g.: “The user with disability did not understand how the program worked (blind), but he expressed his ideas and the professional asked him “what do you need?”).
- Recommendation: In relation to the previous recommendation, the contrary might happen if the professionals start designing objects which they find useful for the user with disability, and may lead to a loss of interest as the user does not understand what this has to do with him or her. It is important to be sensitive to the concentration level, the emotions of the person with disability as well as the work climate, in order not to overwhelm or exaggerate the workload of the person.
- Recommendation: If Disability Organizations find it useful, they should try to introduce a systemic needs detection protocol, as well as up to date science based empathy training.

Topic: Training as an opportunity to become more aware of the possibilities of both professionals and users

- Recommendation: From the point of view of team building, the training of the professionals who work with people with disabilities may be an opportunity to

increase the personal connections, solidarity and a sense of open-mindedness, that may result in innovative ideas.

Topic: Motivation, engagement and capacity of the users

- Recommendation: One of the important motivations comes from the situation that people who live with disabilities do not find the products they need in their everyday life on the market. This may motivate them to understand and dedicate to 3D design and printing.
- Recommendation: To spark interest for the 3D methodology in a user, it is important to facilitate the steps to be taken and the process of 3d printing. On one occasion, the professionals had noticed that their users had already worked with computer and 3D design programmes such as Excel or Tinkercad, so they took this as a facilitating experience in the users which could encourage the use of 3D printing.

Topic: products that are exclusively adapted to the user

- Recommendation: Give people with disabilities the autonomy to find solutions for their everyday life.
- Recommendation: If you are a representative of an organization, authority or enterprise that works with and benefits people who live with disabilities, consider giving large scale access to 3D design and printing.

Topic: Visualize and share, make networks, follow the philosophy of the maker spaces

- Recommendation: The experience of a maker space, such as the visit to the UAB Open Labs in Barcelona, may enrich the overall experience of the 3D design and printing effort. Maker spaces are places with a distinct and collaborative work culture, where mutual helping, learning by doing and failing, as well as freely sharing results with others is dominant. This collaborative work culture can benefit people with disabilities, in the sense that they find a psychologically safe environment, which puts in the first place their potential and possibilities. This may be empowering to them.

Topic: User- to user-support

- Recommendation: pay attention, if a user can help other users to design and print. Maybe there is an opportunity for empowerment, peer support and peer learning.

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