



Empathic design approaches for the development of adaptive wear

Seunghye Cho, Framingham State University

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Zappos Adaptive line which launched in April 2017 started from a phone conversation with a customer whose autistic grandson could not tie his own shoelaces. The Zappos employee dialogued with the customer conducted several months of immerse research and talked with families and individuals with disabilities, which led to create a team dedicated to sourcing products that are functional, fashionable, and accommodate all types of needs (McDonald, 2019). Zappos is not the only one has dedicated adaptive product lines. In recent years, several major fashion brands including Target, Nike, and Tommy Hilfiger have become aware of potential customers' needs and have expanded their product portfolio to be more inclusive. Entrepreneurs around the world have embraced this initiative. As Zappos' story illustrates, in-depth understanding of unmet needs of customers with special needs should inspire designers and apparel brands to bring new adaptive wear products. The adaptive wear market has a huge growth potential as one out of eight American has a psychological or physical disability (Yang and Tan, 2017). Therefore, it would be valuable for future fashion designers to equip creative design capability to develop adaptive wear that would satisfy customers with physical or psychological limitations. In the common fashion curriculum, however, there are limited opportunities for future fashion designers to practice development of adaptive wear for customers with special needs; rather design students are instructed in design process that is focused on the target market's geographical and demographical characteristics. In this study, a collaborative project was introduced for design major students to learn and practice the critical design thinking process with a focus on the development of adaptive wear. The empathic design approaches were employed as the user-centered design principles to build creative understanding of experiences and unmet needs of customers with physical limitations. This included in-depth interviews of customers, the involvement of experts as partners, prototyping, and group discussion (Cho, 2019). The objectives of this project were: 1) to provide students an opportunity to gain experience in the critical design thinking process for the development of adaptive wear with empathic design approaches, 2) to enhance students' creative design capacity for accessing potential adaptive wear markets in special needs, and 3) to expose students to a collaborative work process.

The collaborative project with Keisha Greaves, the founder of Girls Chronically Rock (GCR), was implemented in the Specialized Apparel Design class, which consisted of one junior and ten senior design students, as a final project in the Fall 2020. Ms. Greaves, who has Muscular Dystrophy (MD), established GCR, a t-shirt line business, to inspire and motivate people who have chronic illnesses like she does. Prior to the semester, the instructor met with Ms. Greaves to discuss this project focused on conditions of MD patients, the goals of the

project, the expected outcome, possible communication methods, promotion on campus and in her business, project timelines for meetings with students, design and construction presentations, and final evaluation. In the beginning of the final project, the instructor gave a lecture covering the design process for a collaborative project, empathic design approaches in the fashion field, physical conditions of MD and other chronic illness, GCR products, and case studies for adaptive wear. As the first activity of the project, students were asked to develop questionnaires for the interview with Ms. Greaves to learn MD patients' physical challenges on a daily basis, dressing and shopping habits, design inspirations of her fashion products, and her expectations for the final garments. With the questionnaires, students conducted an in-depth interview with Ms. Greaves via video conferencing because of unexpected change of teaching format from in-person to remote due to the COVID pandemic.

After the interview, each student drew sketches of three ensembles applying collected data. Once the paper sketches were finished, students had a second meeting with Ms. Greaves via video conferencing to present their designs. Through Ms. Greaves' feedback and extensive group discussion, students learned what are suitable and comfortable styles for wheelchair users, what are appropriate closures, and what are the key design elements to enhance their garment's looks and mobility. Students revised their designs to incorporate Ms. Greaves' feedback such as length of dress or pants, closure from buttons to magnets or Velcro for easy access, and design details such as pocket placement, styles of sleeves, and focal points on clothing. Students had two more video conferences to receive Ms. Greaves' feedback for their prototypes and final garments.

The instructor and Ms. Greaves conducted evaluation of final products for design creativity, quality of construction marketability, as well as class participation of each student. In the assessment process, the instructor and Ms. Greaves discussed strengths and weaknesses of each student's design and selected three best pieces based on the criteria of marketability, creativity, and the effective use of design elements. At the end of the semester, the instructor collected students' feedback using reflective journal in order to evaluate the effectiveness of this collaborative project as a pedagogical method for the development of adaptive wear.

It turned out that the interview and critique process with an industrial expert as well as an MD patient via four times video conferences significantly enhanced the students' understanding of design development employing emphatic design approaches for the customers with special needs. This collaborative project provided students an excellent opportunity to practice empathic inferences of user's perspective and situations of product use. While video conferencing was the only practical way to communicate with the potential customer due to the COVID pandemic, it was suggested that the implementation of an effective and more direct communication with the industry expert and the potential customer would fully leverage the effectiveness of this collaborative project as a pedagogical method. With the conclusion of the project, Ms. Greave suggested promoting three selected students' designs on the GCR website and publishing an article in a magazine whose audience is patients with chronic diseases. The instructor and Ms. Greaves agreed to implement this project again in the Fall 2021.

References

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