Evaluation of an Inclusive Design Framework for Apparel Designed for Baby Boomer Women

Sandra Starkey, University of Nebraska-Lincoln, USA

Jean Parsons, University of Missouri, USA

Keywords: Inclusive, Apparel, Design, Aging

The purpose of the research was to evaluate an inclusive design framework that guided the apparel design process for a mini-collection of garments intended for baby boomer women. This is important because an aging U.S. baby boomer population has resulted in a larger percentage of individuals with disabilities and special apparel needs. Increasingly, apparel designers will need to develop solutions that can address a range of needs without calling attention to individual differences. The inclusive design framework has the potential to aid in apparel design processes that include segments of the population that are often overlooked. Additionally, the inclusive design process has not been fully evaluated for use in apparel design and there is a need to fully document and evaluate inclusive design frameworks.

Background. This research was part of a larger apparel design study and the focus of this portion of the study specifically evaluated the benefits of the inclusive design (ID) framework when designing apparel for boomer women with a range of needs. The ID framework is based on the principles of universal design that promotes developing environments and products for people with diverse individual needs and ability levels. ID frameworks differ slightly because they guide the development of products for specific sets of users within the population and prioritize usability for as many people as possible within that set. The inclusive design framework has not been widely adopted in textiles and apparel however research indicates that it is a viable option. The ID guidelines presented by the Engineering Design Centre (EDC) at Cambridge were chosen to assist in implementation of the ID framework for this study. Their website provided resources (toolkit) that outlined a four-phase design process. The purpose of the ID toolkit is to guide and simplify the design process, and it was chosen because it has a solid foundation of research supporting its' development and success in product design

Design Process. The EDC's four phases for concept development guided the apparel design process and included exploring user needs (Explore Phase), creating solutions to satisfy the needs (Create Phase), evaluating whether the needs have been met (Evaluate Phase), and ongoing management of the project (Manage Phase). Within each of the four phases, the EDC provided strategies and tools. For example, during the explore phase it was recommended to "observe the users" and for this study that included data analysis from fashion blogs written by

baby boomer women. In direct response to the Explore phase, the Create phase involved developing solutions to meet the needs identified. Activities in the Create stage aided in design development and included brainstorming, exploring different combinations of ideas, and developing four outfits comprised of nine interchangeable garments. The Evaluate stage assessed how successfully the garment prototypes satisfied the needs of boomer women at two different times during the research. This is a critical stage in the development of most ID products and especially apparel to ensure that the needs were met. Lastly, project management was an ongoing part of the inclusive design process from phase to phase. All phases were carefully documented and reviewed by the researcher and another faculty. A final follow-up review included documentation, reflective analysis, analytical summaries and the following conclusions.

Conclusions. The design process for this study closely followed the guidelines for ID however the apparel design process at times was creative and non-linear. It was both helpful and necessary to periodically revisit the ID design objectives to remain focused about inclusive design. The EDC website offered a well-defined and straight-forward process to follow for inclusive apparel design for this study. The steps were easy to follow and the process was flexible and easily adapted to apparel design. Tools were provided to help move the design process along and/or to help document and evaluate the different phases of the project. Several of the activities were not applicable to inclusive apparel design and specifically for this research because of the limited scope of the project that was not concerned with the manufacturing phase of product development. The ID toolkit will be most helpful as an educational tool for new designers that are in the early stages of inclusive design. The ID toolkit provides an appropriate amount of information and tools to walk designers through the entire process efficiently, at no cost and is available to anyone with internet access. Utilizing this framework to include the clothing preferences of an aging and possibly disabled consumer may also help expand apparel design strategies into other untraditional markets with needs that have yet to be met. Ultimately, research that addresses inclusive design strategies will provide tools for future designers to better meet the desires of an increasingly diverse population. Lastly, a future goal is to develop and propose additional tools tailored specifically to inclusive apparel design to the Engineering Design Centre in Cambridge for use on their website.

References

Herriott. (2013). Are inclusive designers designing inclusively? An analysis of 66 design
    cases. *The Design Journal , 16* (2), 138-158.
NC State University Center For Universal Design. (n.d.). Retrieved 2013 from NC State
    University: http:www.ncsu.edu/project/design-projects/udi/center-for-universal-
    design/the-principles-of-universal-design/
University of Cambridge. (2013). Retrieved 2015, from Inclusive design toolkit:
    www.inclusivedesigntoolkit.com/betterdesign2/whatis/whatis.html.