



## Identifying and Adapting Design Features within a Historic Costume Collection to Inspire Inclusive Apparel Design in a Senior Capstone Product Development Course

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**Introduction.** Students can easily find and build digital resources from social media. However, they lack the ability or opportunity to study original objects (Chapman, 2020). Therefore, this study aimed to explore the examination of original objects by incorporating object-based learning into design research and practice using a historic costume and textile collection (HCTC) to highlight inclusive design methods and to serve as design inspiration.

HCTCs are teaching tools to inspire students and support coursework (Welters, 2011). Gam and Banning (2012) suggest that the challenge in using HCTCs for inspiration relates to how we teach students to use material artifacts in the creative process of inspiration.

**Theory.** Object-based learning theory (OBL) was the theoretical framework grounding this study. OBL is an object-based pedagogy that prioritizes facilitated learning to enhance critical thinking (Kador et al., 2018). OBL is often used in conjunction with museums on higher education campuses.

### Method

**Costume Collection Exploration.** Content analysis is a method to describe and quantify phenomena systematically and objectively (Sandelowski, 1995). An instructor and an HCTC curator from a midwestern university used qualitative content analysis to analyze the HCTC for examples of design features that could inspire inclusive design.

The study consisted of three phases:

- **Phase 1:** Developed a list of adaptive/inclusive design features used to select artifacts from the HCTC. See Table 1 for the list of features.
- **Phase 2:** Reviewed the collection, row by row, looking for items that fit the criteria. Ultimately, 56 different artifacts that included unique adaptive/inclusive features

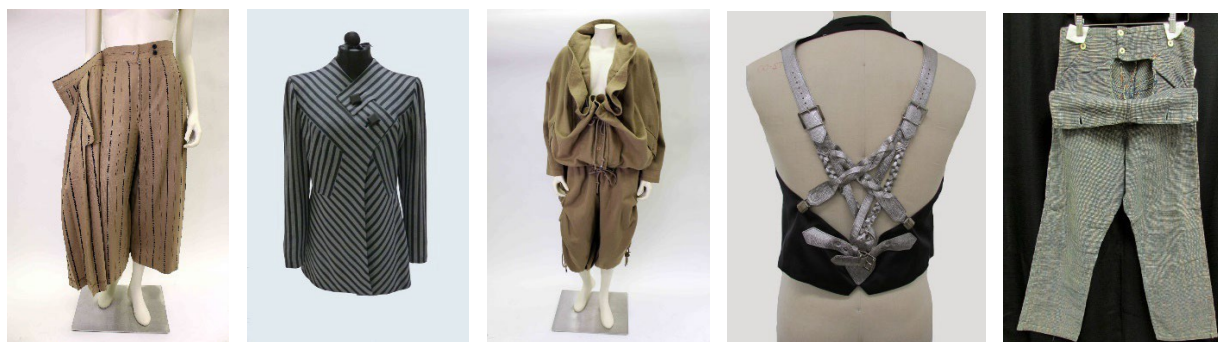
were discovered.

- **Phase 3:** Removing duplicates, the instructor, curator, and the curator's assistant narrowed the 56 artifacts to 30. Finally, the artifacts were introduced to the senior capstone students by explaining their features and providing examples of how they could be used as inclusive design elements for their projects. Students were then asked to identify specific garments they were most interested in exploring further. The students identified seven artifacts for their design inspiration (See Figure 1).

**Table 1:** List of Design Features for Costume Collection Analysis

Categories	Design Features
Openings	Access points at the shoulder, legs, waist, or cuffs.
Closures	Zippers, Velcro, magnetic buttons, front clasps, wrap fronts, cut-out backs.
Fabric	Sensory sensitive material or seams/stitches. Spandex. Tight compression.
Shoes and Socks	Zippers, slip-on shoes, Velcro straps, elastic laces. Loops for ease of donning and doffing.
Other Features	Tagless. Elastic waist. Drawstring at arms, waist, and legs. Ruching at arms and legs. Seamless features. No back pockets. Deeper front pockets. Pockets on top of pant legs. Wide neck and armholes.

**Figure 1.** Images of the most popular artifacts from the HCTC.



*Note.* Image 1: Trouser/skirt modular design; Image 2: Jacket with wrap button closure; Image 3: Jacket and pants with drawstring adjustability; Image 4: Vest with adjustability features; Image 5: Pants with fall front panel.

**Student Survey.** A pre and post-test survey was developed to investigate the HCTC objects' impact on students' knowledge and inspiration. Nineteen students were surveyed in Week 5 after they had engaged with the objects and submitted their inspiration research. Thirteen students responded. The post-test was not yet deployed at the time of this abstract submission.

**Results.** Of the 13 respondents, ten identified as female and three as male. Seventy-seven percent identified as white, with 23% identifying as Black. All respondents either strongly agreed or somewhat agreed that the HCTC provided value when using the collection for inspiration in apparel design courses. When asked if they understood the HCTC, 85% stated they strongly to somewhat agreed. Nearly 77% strongly agreed or agreed that they can identify features from within the HCTC that could inspire inclusive design. Furthermore, 85% strongly agreed or agreed that working with the HCTC encouraged them to see their design project from a new perspective. Finally, when asked if the HCTC helped improve their project, 100% strongly to somewhat agreed.

**Conclusions.** Overall, this study demonstrates how an HCTC can provide examples of design methods and features that support the contemporary design process, specifically when exploring inclusive and adaptive design features for marginalized consumers. Furthermore, the study supports using material objects in apparel design courses as sources of inspiration. As indicated by the student responses, there is value in the material objects within HCTCs, and they help enhance the design projects for which the students are engaged.

**Future Research and Limitations.** Future research could explore the inclusion of HCTC artifacts in other product development and design courses to gather data to understand the impact of such learning opportunities on design thinking. Furthermore, additional research should explore identifying other specific design features from the HCTC that could be incorporated into design courses as inspiration, such as draping features, complex use of darts and dart manipulation, and textile use and performance

features. Finally, the limitations of this study include the small sample size and the limited engagement with the collection. Future research could support the inclusion of the HCTC objects throughout the project timeline.

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