

OT and Ergonomics in the Workplace

VB

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Huntington University Doctor of Occupational Therapy Program

Vera Bradley

Project Site & Description

Project Site: Vera Bradley Distribution Center |

Roanoke, IN

Area of Study: Program and Policy

Development; Advocacy

Area of Practice: Work and Industry; Health

and Wellness

<u>Project Description:</u> The focus of this doctoral capstone was ergonomics and risk assessment in the industrial workplace. After receiving additional certification in ergonomics, the student identified key risk factors of various jobs at the Vera Bradley Distribution Center, provided a comprehensive assessment that identified and prioritized high-risk jobs based on a variety of factors, and created additional educational resources for the WorkWISE program at Vera Bradley.

Mission & Vision Statements

Mission Statement: To promote health and wellness in a work environment and provide education from an OT perspective.

<u>Vision Statement:</u> Apositive and injury-free workplace environment that fosters health and productivity.

Needs Assessment

- Vera Bradley is a well-known employer in the greater Fort Wayne area and provides hundreds of jobs.
- The student collaborated with the director of the Environmental Health and Safety department and other managers to determine the greatest need area to address.
- Vera Bradley has adopted the CARES initiative, which includes a focus on ergonomics and continuously working to improve safety, processes, and correcting and preventing issues to reduce risk.

Literature Review

- As of a 2020 report, musculoskeletal disorders (MSDs) still contributed to 30% of days away from work (DAFW) cases in the U.S. private sector, with the median number of days away from work being 12 days for MSDs (U.S. Bureau of Labor Statistics, 2020).
- Collaboration with management ensures that productivity demands and other company needs are met while providing a safer working environment for the employees (Owen & Blumenfeld, 2008).

Christ | Scholarship | Service

Christ: Incorporating Christian values throughout all my work and asking how I can serve others every day.

"As each has received a gift, use it to serve on another, as good stewards of God's varied grace." 1 Peter 4:10 Scholarship: Pursuing advanced education in ergonomics and seeking continual mentorship.

Service: Advocating for the best outcomes of health and wellness for my targeted population.

Project Outcomes

OM 1: In order to develop an in-depth knowledge in ergonomics the student demonstrated their ability to analyze and compare the occupational performance of an individual task for the purposes of identifying an increase of engagement with the reduction of risk.

OM 2: In order to develop an in-depth knowledge in health and wellness, the student developed a health and wellness guideline for the specific workplace of intervention.

Deliverables

- Completed ergonomic assessments
- Completed Ergonomic Assessment Certification
- Risk Analysis with Prioritized Recommendations
- Health and Wellness guidelines
- Digital Strengthening Guide
- CEU Certificate of Completion





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Future Implications

- Impact on OT: Occupational therapists can provide a unique and specialized perspective for ergonomics in the workplace, not only evaluating how best to fit the work to the person but also taking into consideration all external factors of a person's life that may contribute to well-being in the workplace.
- <u>Impact on my career:</u> This capstone helped to further develop my ergonomic assessment and data analysis skills, as well as gave me a unique experience working within a large corporation. This experience will be a great stepping stone to expand my future career in ergonomics.
- Contact Information: langee 79@gmail.com



For more information about this project, please visit this webpage via the QR code.

Key References

*Full reference list available upon request.

Owen, J., & Blumenfeld, D. (2008). Effects of operation speed on production quality and throughput. International Journal of Production Research, 46(24), 7039-7056. https://doi.org/10.1080/00207540701227833

U.S. Bureau of Labor Statistics. (2020). Fact sheet:
Occupational injuries and illnesses resulting in
musculoskeletal disorders MSDs).
https://www.bls.gov/iif/oshwc/case/msds.htm