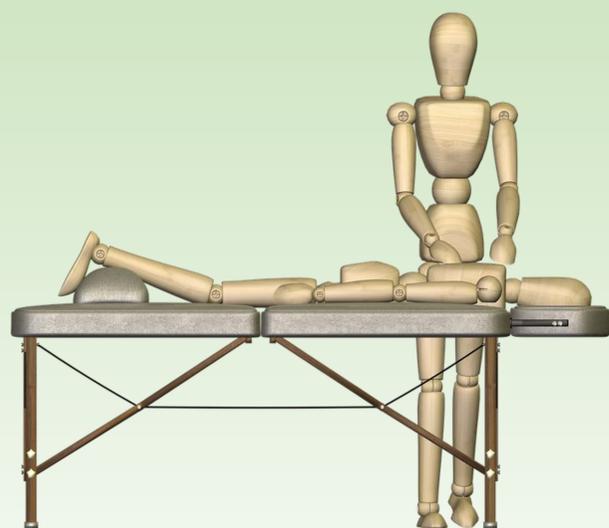


INTRODUCTION

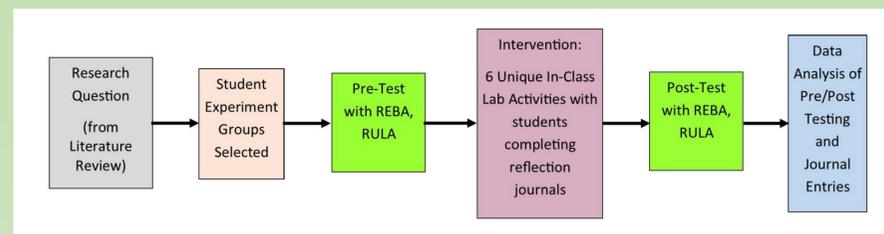
Current industry data suggests that the rise in occupational injuries for massage therapists is contributing to a significant number leaving the profession in a few short years. While many massage therapists are taught methods for proper body mechanics and self-care within their career educational programs, there are few consistencies within the theoretical approaches to these concepts. Consistent results-based pedagogical practices and instructional design in therapist self-care awareness concepts and foundational body mechanics knowledge derived from actual ergonomics principles are needed to create a proactive approach to massage therapy injury prevention.



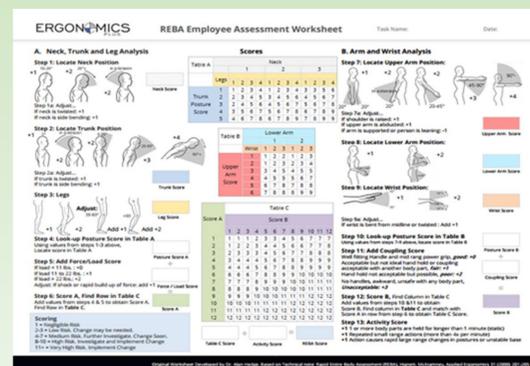
OBJECTIVES

The purpose of this study is to provide a comprehensive instructional design model rooted in adult education learning theories, and to use practical ergonomics tools to test for learning transfer and skills competencies. By using a combination of experiential and transformative learning theory and ergonomics measurement tools, this study demonstrates a measurable and effective method to teach safe body mechanics in entry level massage career training which has the potential to be sustainable for those entering the profession in the future.

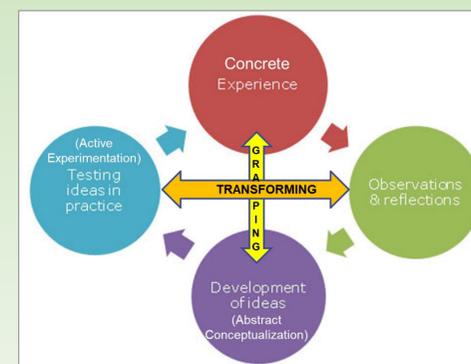
METHODS



Four cohorts of students (N=17) were studied using a mixed methods time series experimental design. A pre- and post-test was conducted by utilizing two industry standard ergonomics risk factor assessment tools for score comparison to denote improvements in each student's risk factor tendencies and to provide evidentiary support of learning transfer. Between the pre- and post-test, students participated in a series of experiential learning exercises emphasizing limited use of anterior hand/palm, awareness of perpendicularity, using balance and flow with basic Tai Chi movements, creation of a self-care plan, and others during the semester, and completed two reflection journals discussing their experiences.



(Middlesworth, 2017)



(Atkinson & Murrell, 1988)

RESULTS

The results showed that there was a statistically significant reduction in ergonomics risk factor scores for all students studied. Further examination of the qualitative results from the students' journals indicated additional support of sufficient learning transfer of core body mechanics and self care concepts. Since the measurable outcomes were favorable from both qualitative and quantitative aspects, the null hypothesis is rejected; the data support the alternative.

Descriptive Statistical Factors of Pre- and Post-Test Scores

	N=17	Mean	SD	SE Mean
REBA Pre-Score		9.941	1.600	0.388
REBA Post-Score		5.647	1.222	0.296
RULA Pre-Score		6.294	1.047	0.254
RULA Post-Score		3.941	0.659	0.160

Paired T-Test and Confidence Interval of Samples

Paired Samples	T-Value	P-Value*	Estimate for Difference (SD)	95% CI
REBA Pre-Score vs REBA Post-Score	13.50	0.000	4.294 (1.312)	Lower: 3.620 Upper: 4.969
RULA Pre-Score vs RULA Post-Score	9.74	0.000	2.353 (0.996)	Lower: 1.841 Upper: 2.865

*Significance of P-Value < .05

CONCLUSION

All subjects realized improvement in their measurable ergonomics risk factor scores, developed individual kinesthetic awareness, and applied the knowledge to create personal adaptation that resulted in some reductions in potential injury risk. The success of this study demonstrates that the instructional design of experiential and transformative learning theory and general ergonomics concepts is an effective approach to teaching body mechanics to entry level students, which could be widely adopted into massage therapy curricula and eventually contribute to reduction of occupational injury in the future.

REFERENCES

Atkinson, G & Murrell, PH (1988). Kolb's experiential learning theory: A meta-model for career exploration. Journal of Counseling and Development, 66, 374-377.

Middlesworth, M (2017). Ergonomics Plus, A step-by-step guide to the REBA assessment tool. Retrieved from <http://ergo-plus.com/reba-assessment-tool-guide/>

A complete list of references can be found in the published research article in the International Journal of Therapeutic Massage and Bodywork, Volume 11, Number 4, December 2018. Website reference: <http://ijtmb.org/index.php/ijtmb/article/view/401>

ACKNOWLEDGEMENTS

The author would like to acknowledge Leann M. R. Kaiser, PhD, MS, and Tobin Lopes, PhD, MEd, assistant professors at Colorado State University, School of Education, Adult Education and Training program, for their guidance in the research, development, and statistical data review of this study. The author would also like to acknowledge Brent Jackson, MEd, BS, LMT, BCTMB, Sandy Fritz, MS, LMT, BCTMB, Tara McManaway, MDiv, LCPC, LMT, LPC ALPS, and Susan Salvo, EdD, LMT, NTS, CI, BCTMB for their encouragement to persevere with this work for the profession.

CONTACT



Robin B. Anderson, MEd, BA, LMT, BCTMB, CEAS
Director – Massage Therapy Program, Community College of Baltimore County
randerson2@ccbcmd.edu, 443-840-1069 or 443-417-5494