Data-Driven Evaluation of HANDS in Autism® Offsite Trainings: Participant Satisfaction & Autism Knowledge Outcomes

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Introduction

The HANDS in Autism® Interdisciplinary Training and Resource Center provides evidence-based training and consultation to support professionals working with individuals on the autism spectrum and developmental disabilities. As part of the HANDS team, structured training series were delivered across Indiana, Illinois, and neighboring regions. For this practicum, I analyzed evaluation data from the Springfield School District using REDCap-captured Daily Training Evaluation Forms and Autism Knowledge Survey© responses. The project examined participant satisfaction, changes in autism-related knowledge, and whether these trends reflect overall training effectiveness. This work produced a scalable analytic framework that enables HANDS to monitor outcomes more systematically and use data-driven insights to strengthen instructional design and learner experience.

Practicum Scope

The practicum centered on analyzing evaluation data from HANDS in Autism® training sessions delivered to Springfield School District. My work involved transforming REDCap-captured Daily Training Evaluation Forms and Autism Knowledge Survey© responses into meaningful insights on participant satisfaction and knowledge growth. This work required cleaning, integrating, and analyzing multi-day training datasets while developing reproducible visual dashboards. A significant aspect of my role centered on creating a scalable analytic workflow that supports ongoing outcome monitoring, strengthens instructional decision-making, and enhances the long-term evaluation capacity of HANDS programs.

Preceptor Details

Organization: HANDS in Autism® Interdisciplinary Training and Resource Center
Preceptor: Tiffany Neal PhD, HSPP & Mounika Gottipati BDS, MSHI
Mission: To deliver evidence-based training, coaching, and collaborative support that strengthens the skills of professionals, families, and community partners working with individuals on the autism spectrum.
Worksite: Indiana Institute on Disability & Community at Indiana University Bloomington
Adminstrative Structure: An interdisciplinary team of faculty, training specialists, and evaluation staff within IIDC overseeing program development, training delivery, and statewide capacity-building efforts.

Learning Objectives

- Apply data cleaning, integration, and analysis techniques to multi-day training evaluation of datasets.
- Evaluate participant satisfaction and autism-related knowledge change using REDCap and Autism Knowledge Survey© responses.
- Translate analytic findings into actionable insights that inform instructional design and training improvements.
- Strengthen skills in data reporting, documentation, and interdisciplinary communication within an applied clinical-education setting.

Timeline

September–October: Defined practicum scope, reviewed REDCap evaluation tools, cleaned datasets
October–November: Data management & conversion to standardized format for analysis
November–December: Created & Interpreted visualizations on satisfaction and AKS findings, refined analytic models, and generated final dashboards and summary reports.

Practicum Duties

Task: To support HANDS in Autism® program evaluation by preparing, analyzing, and visualizing REDCap-captured training data, with emphasis on participant satisfaction patterns and Autism Knowledge Survey© outcomes for the Springfield School District.

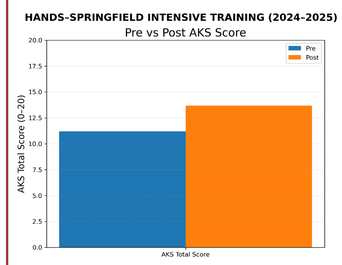
Objectives:
•Assess participant satisfaction across multi-day trainings and measure changes in autism-related knowledge.
•Establish a scalable, reproducible analytic workflow to strengthen HANDS' long-term evaluation capacity.
•Translate raw REDCap data into clear, actionable insights that inform instructional improvements and program decision-making.

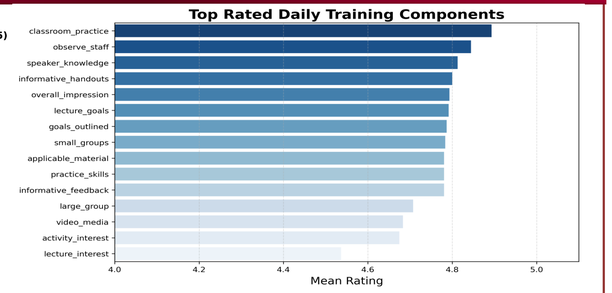
Methodology:
A structured data-analytics workflow was applied, including cleaning and standardizing REDCap datasets, generating AKS pre/post scores through item-level scoring, and analyzing daily satisfaction trends. Modular Python scripts and visual dashboards were developed to ensure reproducible analysis and support ongoing HANDS evaluation needs.

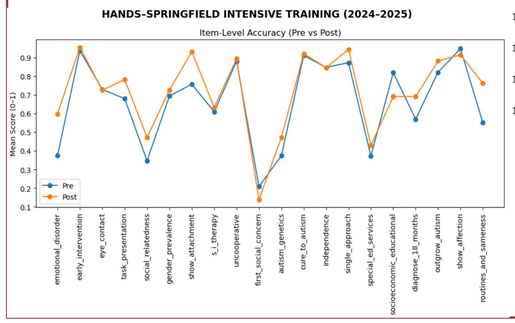
Specific tasks:
- Cleaned and prepared REDCap evaluation datasets for analysis.
- Built AKS scoring logic, calculated pre/post outcomes, and analyzed satisfaction trends.
- Developed visualizations and a reproducible analytic workflow to support ongoing program evaluation

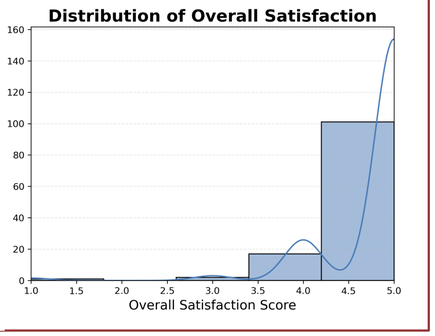
Tools used:
Python (Pandas, NumPy, Matplotlib, Seaborn), REDCap, MS Excel

Practicum Outcomes – Professional









Practicum Outcomes – Learning Objectives

Enhanced technical skills in preparing and analyzing REDCap evaluation data using Python, converting multi-day satisfaction and AKS responses into interpretable metrics. Strengthened competency in building clear visual summaries to illustrate participant engagement and learning outcomes. Applied analytic findings to inform training refinements and support continuous evaluation efforts within HANDS in Autism®.

Conclusion

This practicum showed that structured analytics can effectively training outcomes, demonstrating strong satisfaction and measurable knowledge gains. The resulting workflow offers a scalable, repeatable approach for ongoing data-informed improvement.

Future Technical Directions
Future work may include automating REDCap data ingestion, expanding dashboards for real-time monitoring, implementing longitudinal tracking of participant outcomes, and integrating machine-learning models to predict training impact and guide instructional improvements.

Acknowledgments
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