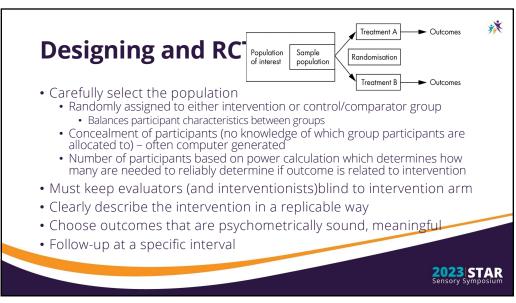






#### What is an Randomized Control Trial (RCT) Assessed for Eligibility • A study that randomly assigns participants to an experimental Randomized group and a control group • One of the best ways to study Allocated to Allocated to Intervention Intervention efficacy of treatment Excludes bias and controls variability Received Received • Examines cause-effect relationship Intervention Intervention Considered one of the highest levels of evidence Followed Up Followed Up • Referred to as gold standard in intervention research Analyzed Analyzed 2023 STAR Sensory Symposium

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## **Components of a High Quality RCT**



(Cook, et al., 2015 CEC Quality Standards)

CEC's Standards for Classifying the Evidence Base of Practices in Special Education



- Clearly and comprehensively describes context and setting
- Clearly describes participants: demographics, diagnosis and related conditions
- Clearly describes the intervention, its active ingredients who will deliver it, any special training needed, replication, and the procedures (use a manual!)
- Internal validity: Evidence that the independent variable (ASI) causes change in the dependent variable (participation in tasks and activities)
- Outcome measures are relevant and with adequate psychometrics
- Data analysis is appropriate to evaluate outcomes and measures effect size

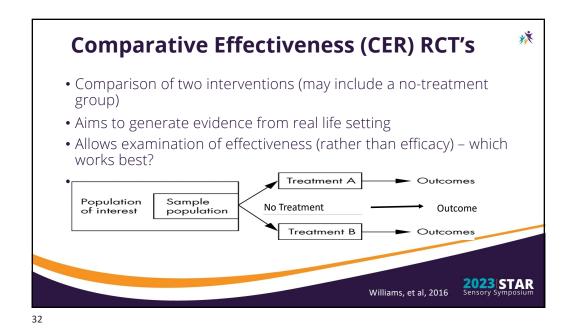
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## **Challenges of RCTs**

- Costly
- Time intensive
- Requires upfront time to train intervention
- Must have fidelity measure
- Obtaining a clean sample
- Controlling for variables
- Choosing outcomes that are sensitive and meaningful (and psychometrically sound)
- Loss to follow-up





RCTs and CER's on ASI

• Miller, Coll, et al 2007 (SI vs control)

• Pfeiffer, et al, 2011 (SI vs group activities)

• Iwanaga, et al, 2013 (group activities vs. SI)

• Schaaf, et al, 2014 (ASI vs no treatment)

• Kashefimehr, et al, 2017 (SIT vs control)

• Omairi, et al, 2022 (ASI vs control)

• Randell, et al, 2022 (senITA: ASI vs control)

• Schaaf, et al., in press (ASI vs. ABA vs control)

## **Current status of research**

- A manualized, systematic protocol for OT-ASI
  - Describes intervention in detail
- Active ingredients of ASI are outlined
- A validated fidelity measure
- A sensitive, meaningful outcome measure (GAS, PE
- OT-ASI improves participation in individualized goals
- OT-ASI improves socialization
- OT-ASI may improve independence in daily living skills (PEDI)
- OT works!



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## We still need to learn

- What are the mechanisms of action?
- Which aspects of the intervention are useful for which outcomes
- Which characteristic benefit most and from which interventions
  - sensory characteristics
  - Cognitive level
  - Family and socioeconomic situations
- Adequate dosage: intensity and frequency
- Can it work in settings other than clinics
  - Evidence for school-based ASI





## **Guidelines for Discerning Consumers** • Evaluate quality of research study • Use CEC or other quality indicators for RCTs and CER

- Is the sample clearly described and are groups comparable?
- Is the intervention described in a replicable manner?
- Determine if outcome measures are psychometrically strong and meaningful
- Are intervention and intervention targets described in a replicable way?
  - Do they follow a manualized or evidence-based approach
- Is the stated relationship between the intervention ingredients and the functional targets clearly described and tested?

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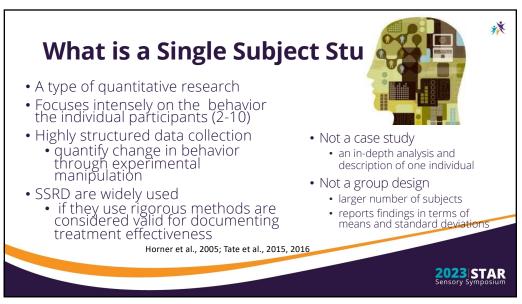




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## Why use SSRD



- Links science to practice and practice to science
- Fits easily into clinical settings
- Considered rigorous
  - Rigor varies depending on the type of design
  - All conditions are held constant except for the introduction of the intervention
- Experimental control occurs within each subject
- Individual serves as their own control
  - Person is both the control and the experimental condition



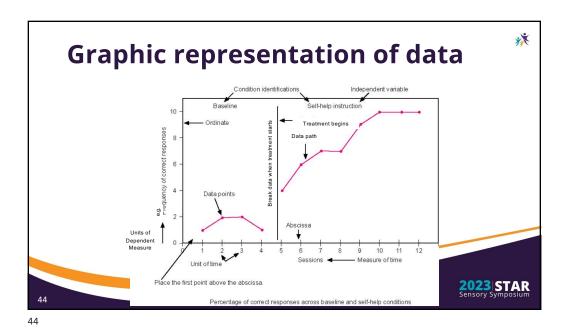
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# **Characteristics of a Single Subject Study**



- Behavioral change is individualized, does not rely on standardized measures (e.g. probe)
- Outcome is measured repeatedly over time taken with and without treatment
- Phases or conditions are compared
  - A no intervention Baseline Phase condition followed by the introduction of the Intervention Phase (treatment)
- Change in behavior is represented graphically
- Outcome is plotted on the y axis and time on the x axis (weeks, treatment sessions)





Advantages of single subject research
• Focuses intensively on the behavior of the individence of the indivi

Focuses intensively on the behavior of the individual participants

- Sensitive to individual differences
- Able to discover causal relationships through manipulation of the intervention (aka the independent variable)
  - Careful measurement of the outcome (aka dependent variable)
  - Control of extraneous variables
- Has social validity
- Group data can hide individual differences
  - Ex. Intervention that has a positive effect on half and negative effect on half, on average would have no effect at all

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## **Challenges of SSRDs**

 Collecting baseline data means client does not receive intervention over a period of time in order to achieve stability of the outcome

- Must have fidelity to intervention
- Choosing behavioral outcomes (probes) that are sensitive to change and meaningful
- Generalizability is limited
- Replication must be considered (across participants, across settings, etc)
- Many designs do not follow client longitudinally



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## **Components of a High Quality SSRD**

- Adequate evidence of reliability of dependent variables (ex. inter-observer agreement) and fidelity of independent variables (ex. rating alignment to Ayres SI Fidelity Measure)
- 2. Inclusion of at least three attempts to demonstrate an intervention effect at three different points in time
- 3. Visual analyses to determine whether there is a functional relation between the intervention and the outcome

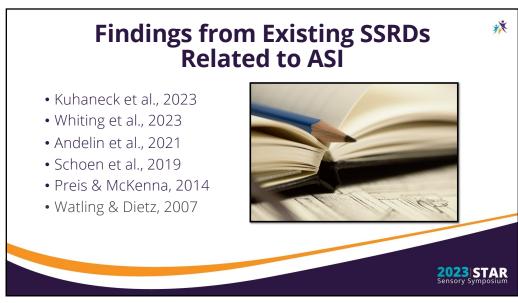


(Tate, et al. 2016; WWC, 2017; CEC, 2014)

\*\*The Single-Case Reporting Guideline In BEhavioural Interventions (SCRIBE) 2016 consists of a 26-item checklist for researchers to address while reporting the results of single case studies.











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## Qualitative research in occupational therapy

Since the 1970s' interpretive turn (Frank & Polkinghorne, 2010)

- · First generation, primary approaches to experience & meaning
  - ✓ Anthropology: Ethnography to study culture
  - √ Psychology: Phenomenology to study conscious experience
  - ✓ Sociology: Grounded theory to study experiential dimensions of social processes
- Second generation, new approaches to structures/systems
- Epistemic plurality & epistemological pluralism (Kinsella, 2012)

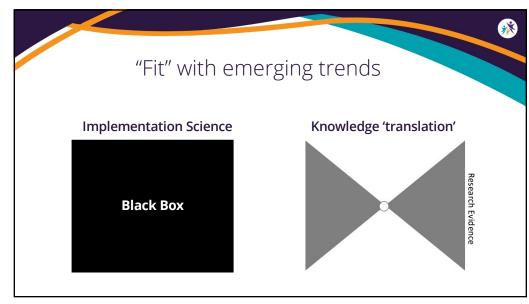


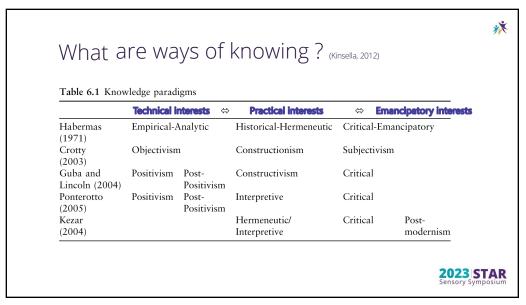


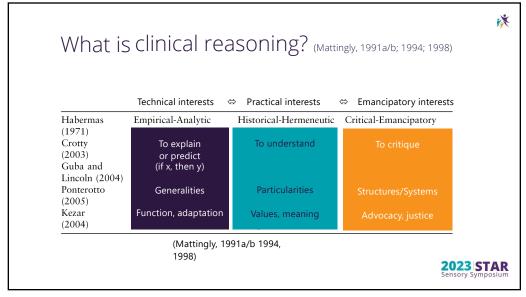
& Souza, 2022; Rocco, Drobnyk, Bruce & Soumerai, 2023)

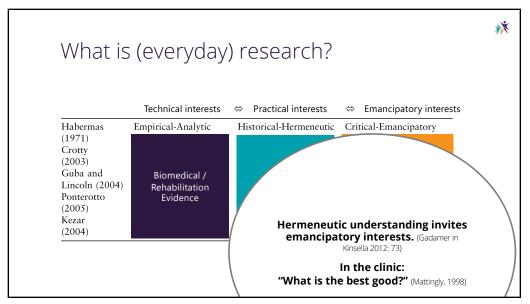
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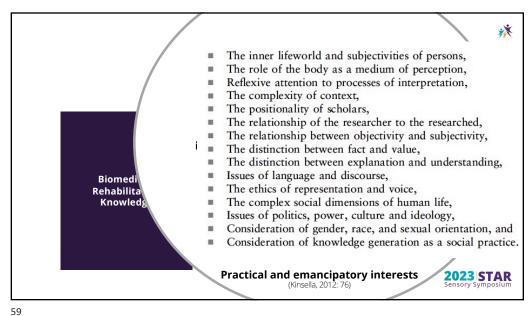
embodied pleasure)

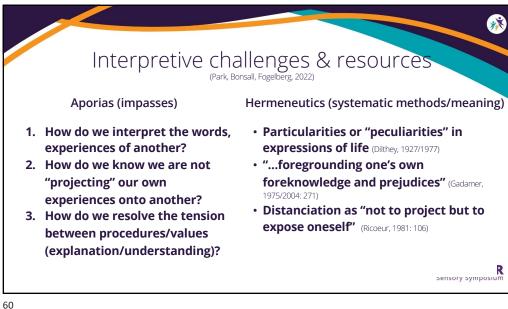












# Key Considerations in qualitative research 1. "Gazing anew" (Lawlor, 2003)



Lawlor, M. C. (2003). Gazing anew: The shift from a clinical gaze to an ethnographic lens. AJOT, 57(1), 29-39.

**Participant observations** 

- open to vulnerability and the ambiguous implications of a vulnerable stance
- absorption in the events, words, and daily lives of others
- the need to "understand"

**Clinical observations** 

- can mask, delimit or minimize vulnerability.
- fix and be helpful
- the need to "act" (or explain)

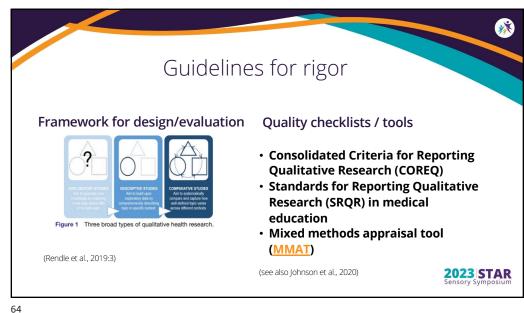


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## Key Considerations in qualitative research

- 1. "Gazing anew" (Lawlor, 2003)
- 2. Epistemic reflexivity (Kinsella & Whiteford, 2009; Kinsella, 2012)
- 3. "Knowing from where I respond" (Zafran, 2019)

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