Making a positive impact: Building an important and productive line of AAC research

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Communication is the essence of human life

Thank you!

Thank you for choosing to dedicate your careers to improving outcomes for individuals with complex communication needs and their families

Thank you!

Thank you for choosing to embrace the challenge of AAC research!
Objectives for session

• To discuss what it means to build a line of research
• To provide an example of a line of research
• To share lessons I learned along the way during my research career
• To suggest strategies for developing a research career

What is a line of research?

• A map for your career as a research scientist
  – Your intellectual vision
  – Your plan to make a positive impact
  – A believable, credible, compelling story
    • Driven by sound theory
    • Supported by empirical data
    • Fueled by dreams
Getting started building a line of research

- Start with a vision
- How do you want to make a difference?
  - Define a problem
  - Determine the purpose of your research

Lesson #1
Find your purpose

- Find your sweet spot
  - Follow your interests
  - Capitalize on your strengths
  - Consider the support available
  - Ensure the importance of your work

Lesson #1
Find your purpose

Lesson #2
Focus on what is important

- Research is hard work
- A successful research program requires purpose
  - Don’t waste time and effort on trivial pursuits
  - Avoid useless research that is of no consequence
Avoid useless research of no real consequence

- The effects of backwards speech (i.e., comparative difference between Japanese spoken backwards & Dutch spoken backwards) on language discrimination by rats.
- The effect of wearing polyester, cotton, or wool trousers on the sex life of rats.
- The attraction of dragon flies to horizontally polarizing black grave stones.
- The effect of mirror scratching the right side on itch relief of the left side.

Lesson #2
Focus on what is important

- Keep the big picture in view
- Ask yourself: “What difference will this make?”

Lesson #3
Break the problem down

- Most studies do not have a profound impact on their own
  - Discovery is the result of the systematic accumulation of evidence across studies

Complexities of AAC research

- Variables to consider
  - Intrinsic variables related to the individual who requires AAC
  - Variables related to the partner
  - Extrinsic variables related to the environment
  - Variables related to AAC systems
  - Intervention/ instructional variables

From Mandelk, O’Neill, Light & Fosco, 2017
Lesson #3
Break the problem down

- Determine a path
  - Break down the problem into a series of steps
  - Define a series of beautiful questions
    - Each question guiding a new study
  - Start the pipeline!
    - Define the first project
    - Build to second project and third and fourth and fifth
    - Have multiple projects in progress
      - Conceptualization stage
      - Data collection stage
      - Analysis stage
      - Dissemination stage
  - Gradually accumulate evidence to illuminate the big picture
    - Remember that your destination is evolving

Lesson #4
Build your arsenal of research tools

- Learn everything that you can about research methods and data analysis
  - Qualitative & quantitative methods
  - Observational & experimental approaches
  - Tools to answer any question
    - From basic research to
    - Applied clinical research to
    - Implementation science
  - It doesn’t take any more time to do good research than it does to do bad research

Lesson #5
Work hard

- Work hard
  - One of the greatest predictors of achievement is time on task
- Never stop learning
  - Read & learn as much as possible in AAC
  - Read & learn as much as possible in other domains

Lesson #6
Build an AAC community

- “One is never enough”
  - Discovering solutions requires the input of many
  - Reach out to others /collaborate
- Build an AAC community
  - Individuals who use AAC, families, undergraduate & graduate students, faculty, clinicians, engineers, technical developers, AT manufacturers
  - Those in AAC,
  - Those in other disciplines
Choose your collaborators wisely

Lesson #7
Be generous

- Support others
  - Share your ideas with others
  - Provide feedback to others
  - Offer encouragement to others
- Bring others along with you
  - Become a mentor
- Foster the next generation
  - Encourage and inspire others

A mentor provides a brain to pick a shoulder to cry on and a kick in the pants

Role of mentors

- (The journey) is easier and more fun if the experience can be shared with and guided by someone who has “been there”
- When you teach someone what you know, there are now two of you blazing the trail rather than you by yourself.

- Michael Williams
Lesson #8
Take time to think
• Reflect on problems
  – Slow down / step back
  – Think
  – Record your ideas
  – Write to develop your thinking
• Being paid to wonder
  – Being paid to wonder is a heavy responsibility

Lesson #9
Be bold
• Challenge yourself
  – Keep raising the bar
• Ask questions
  – Challenge others’ ideas
• Put your ideas out there
  – Spend time with others who will challenge you
  – Don’t be afraid to make mistakes

Lesson #10
Don’t be afraid to change directions
A line of research is not really a line

But it should not be a smattering of unrelated studies

Lesson #10
Don’t be afraid to change directions

- As you investigate new areas & unearth new discoveries, be ready to shift directions to accommodate new findings
  - Be flexible
- Be open to serendipitous discoveries
  - Observe, analyze, reflect
  - Embrace the “aha moment”

Embrace the “aha moments”
Don’t be afraid to change directions
Birth of a new line of research

- How do we re-design AAC systems so that they are
  - Developmentally appropriate?
  - Dynamic?
  - Easy to learn & use?
  - Appealing?

Lesson #11
It’s not over until it is successfully adopted

- Disseminate results to all stakeholders to ensure uptake and external use
  - Individuals with complex communication needs, families, clinicians, researchers, administrators, policy makers, etc.
- Think about what content should be disseminated
- Think about how it should be delivered for each stakeholder group
  - Peer-reviewed publications, conference presentations
  - Websites, visual abstracts, webcasts /podcasts
  - Social media, Facebook, Twitter, blogs
  - Success stories, etc.
Lesson #12
Celebrate your contributions
Discover joy in your work!

Lessons that I learned along the way

1. Find your purpose
   - Follow your interests
   - Capitalize on your strengths
   - Consider the support available
   - Ensure the importance of your work

2. Focus on what is important
   - What difference will this make?

3. Break the problem down
   - Start the pipeline

4. Build your arsenal of research tools
5. Work hard
6. Build an AAC community
7. Be generous
   - Mentor others
8. Take time to reflect
9. Be bold
   - Challenge yourself

10. Don’t be afraid to change directions
    - Don’t be afraid to take a detour.
11. Disseminate to ensure successful uptake
    - By individuals with complex communication needs, their families, clinicians, researchers, AT manufacturers/technology developers, administrators, policy makers, etc.
12. Celebrate your contributions!
Study hard what interests you the most, using techniques that are theoretically & methodologically sound. Be bold. Set the bar high. Draw on your ingenuity and creativity to forge new discoveries. Most importantly, make a positive difference in the lives of individuals with complex communication needs and their families.

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