DOCUMENTING AND DISPLAYING YOUR RESEARCH PROJECT OR PROCESS: SUPPORT TOOLS FOR EVERY STAGE OF THE PROCESS

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Who am I? What do I do?

Research Consulting and Support Including:

- Planning and Development
- Grant Writing and IRB support
- Instrument Choices and Development
- Database development (coding, cleaning)
- Analysis – both qualitative and quantitative
- Manuscript, presentation, or poster support
Useful Tools?

- Are there currently any tools that you use that are essential to your research process?
- Are there any tools you wish you had?
Documenting Your Research Process

- How we currently use charts and diagrams in our research.
- New ways to use charts and documents in your research process:
  - Explaining the Project: The Brief – a document that describes your entire study in one paragraph
  - Describing a process:
    - A participant flow chart – a visual document that describes exactly what happens to a participant in your study.
    - Study timeline
    - A modified logic model – a useful document to cover the processes of your entire study.
- Creating a chart together
- Finding tools and resources for creating charts, models and diagrams
How We Often Use Charts/Diagrams

- We often use visuals to display data. This is extremely helpful and reduces our need for complex verbiage. One chart can take the place of paragraphs in a journal article.
How We Often Use Charts/Diagrams

Research Proposal Flow Chart

1. Introduction
   How? Why?
   Research Question
   Literature on Topic
   Literature on Method
   Theoretical Approach

2. Literature Review
   Why? How?
   Find a Hole
   Look for Debates
   Find a gap
   Find a gap

3. Methodology
   How?
   Selection and Access
   Human Subjects Review
   Ethics Statement
   Costs and Funding

4. Preliminary Data
   What?
   Preliminary Findings
   Important categories & Relationships
   Alternatives
   Weaknesses

5. Statement of Limitations
   What your research will do
   Contributions

6. Conclusion
   What? How? Why?
   Importance
How We Often Use Charts/Diagrams

Choosing a Primary Research Method

Can the respondent answer accurately? (What someone consciously believes may differ from “deeper” opinions; beliefs about hypothetical products may not be well developed.)

YES

OPINIONS

PROJECTIVE METHODS

Can the relevant behavior be observed in the customer's natural environment?

BEHAVIOR

NO

Does the question involve OPINIONS or BEHAVIOR?

YES

EXPLORATORY or PRECISION research?

EXPLORATORY

INDIVIDUAL INTERVIEWS

SURVEYS

FOCUS GROUPS

PRECISION

SCANNER DATA (e.g., brand choice, impact of advertising, previous purchases, competing brands, demographics)

OBSERVATION (e.g., how long does the shopper spend? What does he or she look at? Is anyone else involved?)

EXPERIMENTATION (determine causality—e.g., impact of product design, advertising message)

PHYSIOLOGICAL (e.g., determine reactions, attention, arousal)
How We Often Use Charts/Diagrams

- Charts, visuals and textual briefs can also greatly support our research process from beginning to end.
- Some visually appealing modeling ideas are easier to consume and share and more quickly demonstrate your process.
# How We Often Use Charts/Diagrams

## Chart 4 - Articles selected for the integrative literature review, on online databases, between 2006 and 2009

<table>
<thead>
<tr>
<th>Author, Year, Publication Source, Country</th>
<th>Participants/sample</th>
<th>Intervention</th>
<th>Methodology</th>
<th>Main Results</th>
</tr>
</thead>
</table>
| Brideaux et al. (2009)  
American Journal of Medicine, Vol 131, 2, p.453-444. USA | Patients with COPD | To assess the nursing interventions for disease management, patients education with 2-4 more specific components; 2-3 more health professionals involved. | Systematic literature review based on 13 quantitative studies | COPD management programs promote moderate improvements in the capacity for exercise; health-related quality of life; hospital admissions. Does not have any effect on mortality causes. |
| Caster & Norman (2009)  
International Journal of Nursing Studies, 46, pp. 508-52. UK | Patients with COPD | Education and nursing interventions designed to promote disease management. | Systematic literature review based on 31 quantitative studies | There is insufficient evidence about the effectiveness of the reviewed interventions. The components of successful interventions in this domain are still to be defined. |
| Adams et al. (2007)  
Arch Intern Med, Vol 167, 4, p.551-565. USA | Patients with COPD | Chronic care model (CCM) interventions (treatment management, available health system, Decision support, Clinical information). | Systematic literature review based on 32 quantitative studies | Patients with COPD who received interventions comprising CCM components reduced hospital admissions, fewer visits to the emergency room, and shorter length of stay. |
| Lee-Chi et al. (2007)  
J Nursing Research, Vol. 15, pp.89-97. Taiwan | Patients with COPD (n=50) | Case management program and its effects on the length of stay; health care costs; knowledge about the disease; satisfaction towards health care. | Quasi-experimental study | There are no significant differences regarding the length of stay, health care costs. There were improvements in: knowledge about the disease, satisfaction towards health care. |
| Bourbeau et al. (2009),  
Chest, Vol. 130, pp. 1904-1911. USA | Patients with COPD (n=413) | Economic analysis of an education program for self-management in COPD, with the supervision of a case manager. | Quantitative study (multicenter RCT) | The costs of patients subject to the program exceeded the costs of patients of the standard-care group; however, if the number of patients per case manager was increased from 14 to 50 per year, the intervention would be more cost-effective than standard care. |
| Kapitán et al. (2007)*  
Journal of Asthma, Vol. 45, p.625-629. USA | Patients with COPD | Study of the perception of the disease and its effect on patient outcomes. | Systematic literature review based on 16 qualitative studies. | Discussing about and changing the perception of the disease improves quality of life and reduces the dependence level. |
| Effing T. et al. (2009),  
Cochrane Database of Systematic Reviews, Issue 4. Art No.: CD004990. DOI: 10.1002/14651858.CD004990.pub2. UK | Patients with COPD | To evaluate the definitions, methods and effectiveness of educational programs for self-management, about health, and about using health services. | Systematic literature review based on 14 qualitative studies. | Reduction of at least one readmission in one year and reduction in the measurement of dyspnea. No differences were found in the number of exacerbations; visits to the emergency room; respiratory function; capacity for exercise; days away from work. Results are inconclusive for: the use of antibiotics, corticosteroids; emergency visits. |
| Tannek RC et al. (2009)*  
Cochrane Database of Systematic Reviews, Issue 4. Art No.: CD005574. DOI: 10.1002/14651858.CD005574.pub2. UK | Patients with COPD | To evaluate the efficacy of action plans on the management of COPD | Systematic literature review based on 3 quantitative studies | There is evidence of positive results; for the knowledge about self-management (recognising exacerbations); action on exacerbations; starting antibiotics and steroids. There is no evidence of positive results for health care use; quality of life; respiratory function; functional capacity; mortality; anxiety; depression. |
Research Brief – Keep it Short!

1. My proposed study is about this. Here is why this problem is important.
2. Here is what we know about this problem.
3. These studies leave THIS IMPORTANT THING that needs to be found out.
4. Here is what I will do to find that out. I will do the study this way.
5. It will ideally produce these results.
6. This is the value of doing the work.
7. This is why I am qualified to do it, and whom I’ll work with.
8. Remember, this is the contribution my study will make.
We are exploring a relaxation intervention for girls with headaches. Headache is the most commonly reported pain symptom for girls between 15 and 18 and is highly correlated with stress and depression. It has been shown that stress and headache create a reinforcing cycle.

However, relaxation training has been shown to dramatically reduce stress. Therefore, it is essential to better understand the potential effect of relaxation on headache.

For our pilot study, we will conduct a 6 week in-school relaxation intervention with a small cohort of self-selected girls with headache to determine if headache symptoms and associated disability is reduced as a result of relaxation training. This study is extremely important in developing a successful intervention for teens with headache.
Participant Flow Charts

- Can be drafted, discussed and redrafted as the study evolves from an idea to a formal plan.
- Can help the research team identify and troubleshoot potential barriers and delays in a research process.
- Extremely helpful for the IRB process and is often requested by UW IRB as a supplemental document.
Participant Flow Charts

A Meta-Analysis Flow Chart
Participant Flow Charts

AACAP Pilot Project Study Flow Chart

Recruitment
- Referral by AACAP Staff
- Hear Presentation by Therese or
- See Public Ad/Flyer at AACAP
- Walk-in/ Word of Mouth

Consent
- Career Advisor
- Consent and
- Academic Advisor
- Consent and

Data Collection
- Focus 2
- Session Logs
- Qualitative
- Focus 2
- Session
- Qualitative

Final AACAP Class
- Exit Survey
- Exit Survey
- Combined Consent and Exit Survey

AACAP Entry
- UWT Advising Group
- Comparison Group

Chooses No UWT Services
Participant Flow Charts

Teen Stress Relaxation Study Pilot Flow Chart

Focus Group 1
"What is Stress?"

Intervention: Sessions

Focus Group 2
"What worked?"

Focus Group 3
"What still works?"

T1 Instruments:
- HA Intake
- Demographics
- Sleep
- Stress
- Depression

Daily Instruments (via mobile):
- HA Freq/Intensity
- Stress Level
- Relaxation Activity

T2 Instruments:
- HA Activity
- Demographics
- Sleep
- Stress
- Depression

T2 Instruments:
- HA Activity
- Demographics
- Sleep
- Stress
- Depression

Intervention: Sessions 1-6

Session 1
Share Pics

Session 2

Session 3

Session 4

Session 5

Session 6

2-3 mos.
Project Work Flow

- Can be used to communicate and problem solve tasks and workflow
- Especially helpful in multi-site partnerships
- Essential during the planning stage
Project Work Flow

Determine Risks and Benefits of Increasing Housing

- Research
  - Housing First
  - Other orgs with similar move
- Existing/ New Data from Partners
- Existing/ New Data from Funders
- Existing/ New Data from Participants
- Existing/ New Data from Board/Staff

Present Background to Decision Makers

- Share background
- Stakeholder meeting to discuss

Examine current program efficiency
- Help to recommend what to stop, what to start, what to continue
- Help to determine partnerships

If Yes, then How?

If No, then What Next?

- Examine current program efficiency
- Help to recommend what to stop, what to start, what to continue
- Help to determine partnerships
Project Work Flow

Office Set up (Oct, 2012)
- Office Space
- Computer
- Phone
- Business Cards

Promotional Materials (Nov, 2012)
- Website
- Trifold
- Presentation
- Flyer
- Event to announce opening of office and network within Antioch - Chancellor’s Mtg

Community Networking (Nov, 2012)
- Linked in
- Conferences/Meetings (→May)
- Follow up on D. Alderman contacts (see Google doc for notes)

Building Partnerships/Increasing Awareness (Jan, 2013)
- Community education
- Free service offering?

Securing Contract (Dec, 2012)
- Meetings with potentials
- Mailing
- Networking

Securing our place at Antioch (Mar, 2013)
- Secure staff/faculty buy in
- Assurance of shared or full office into the future

Marketing to Long Term Partners (Mar, 2013)
- Meetings with potentials
- Mailing
- Networking

Securing Future, Long-Term Contacts (Spring, 2013)
- Requires Full Office Set Up
- Office coordination/operations
- Ability to run multiple projects and be at the ready for new work
Research Study Timelines

- Essential in planning (funding/coordination with staff/researchers)
- Essential to track progress
- Consider including in all research documents from funding to IRB – perhaps even in your manuscript
Research Study Timelines

**Mar. 10 – Apr. 9, 2008:**
- Complete Teacher Pre-Survey;
- Administer First Student Test

**First three weeks of 2008 – 2009 School Year:**
- Administer Second Student Test

**Last five weeks of 2008 – 2009 School Year:**
- Administer Third Student Test;
- Complete Teacher Post-Survey

Jan. 2008

**All Teachers (Experimental and Control)**

**Experimental Teachers Only**

**Apr. 9 – May 28, 2008:**
- First OPD Workshop

**Oct. 1 – Nov. 18, 2008:**
- Second OPD Workshop

**Jan. 21 – Mar. 10, 2009:**
- Third OPD Workshop

June 2009
Research Study Timeline

Teen Stress Study Project Timeline

- Pilot Proposal Writing
- Find funding sources
- Pilot Proposal Submitted


- Full Study Proposal Writing
- Full Study Proposal Submitted


Best Case: Run Pilot Study (Jan 2013 - Apr 2013)

Worst Case: Run Pilot Study (Sept 2013 - Dec 2013)

Best Case: Run Full Study (September 2014)

Publication of Study Pilot Findings
A logic model is a tool used most often by managers and evaluators of programs to evaluate the effectiveness of a program.

Logic models are usually a graphical depiction of the logical relationships between the resources, activities, outputs and outcomes of a program.

This can be useful for not just programs, but for research projects as well.
Using a Logic Model
Using a Logic Model – PE Example

**Resources**
- staff
- clear leadership
- internal/external cooperation
- engaged organization to work with

**Activities**
- intake assessment/site visit
- stakeholder meeting
- understanding of the organization's goal
- collaboration internal and external

**Outputs - Activities**
- literature review
- Final meeting
- final executive summary

**Short and Long Term Outcomes**
- learning/growth in the organization
- change in the organizations processes (potentially mission)

**Impact**
- Improved services to the community
- improved cohesion within the organization and the participants they serve
- students become knowledgeable program evaluators, thus expanding the impact of this project/learning onto others
Using a Logic Model – Research Example

**Resources**
- Staff: Res. Coord
- IRB Home
- Funding/Grant?
- Relationship with Recruitment Institution

**Activities**
- IRB
- Recruitment
- Focus groups
- Final Report

**Outputs - Activities**
- Literature review
- Data Analysis
  - Quantitative
  - Qualitative
- Manuscript Write Up
- NIH Grant

**Short and Long Term Outcomes**
- Add to existing knowledge
- Increase departmental publications
- Ability for students (as fellows) to participate in research

**Impact**
- Further establish our department as leading research
- Recognition by local community
- Engage more students and faculty in the research process.
Using a Logic Model

Evaluation Plan

- Teacher Focus Group
- Student Survey
- STAAR Test
- Interim Report Due
- Analyze Student Data
- Staff Focus Group
- Program Coordinator Interview
- Stakeholder Meetings
- Activity Observations
- Final Report Due

- Sept 2013: Protocols Established
- Principal Interview
- Jan 2014: Teacher Focus Group
- May 2014: Interim Report Due
- Analyze Student Data
- Staff Focus Group
- Program Coordinator Interview
- Jan 2015: Activity Observations
- Aug 2015: Stakeholder Meetings
- Final Report Due
Low Tech Modeling is Useful!
Low Tech Modeling is Useful!
Practice Charting

Research Study

- Recruitment (N=100) with and without back pain
  - Control group = 50 (no pain)
  - Experimental Group = 50 (with back pain)

Screening for eligibility

- Intake Survey
- Experimental Group does yoga class (control group does standard gym exercise)
- Daily Log for 6 weeks of pain and exercise
- Exit Survey
- 3 month follow up
- 1 year follow up
Using SmartArt in MS Word...
Using SmartArt in MS Word...
Resources to Support Charting and Modeling

- Great places to find visual tools and ideas:
  - The Visual Brain: [www.thebrain.com](http://www.thebrain.com)