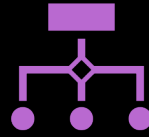


Workflow I: Efficient Accurate Smart

QUANTITATIVE METHODS IN
EDUCATIONAL RESEARCH

QMER
Quantitative Methods in Educational Research

What we do



Support for Statistics and Project Management, and Workflow



Skills not taught in your research design courses



Group and one-on-one support

Why 'Workflow'?

Workflow is how you organize and execute a project. It supports everything you do, so improving it is the biggest leverage point in being more efficient.

Suppose you use a survey:

1. Where do you keep the original survey?
2. The responses?
3. The analysis on the responses?
4. What about when your chair asks you to try out new questions?
5. And then wants you to go back to the way you had it at first?
6. Then a new wave of the survey comes out. Where does that go?



1. What is a Workflow?

Planning
Project

Documenting
Choices

Cleaning Data

Creating Data

Test Analyses

Select &
Reconcile
Iterations

Export
Results

Archive/Post



Reproducibility

2. Workflow Criteria



Accurate



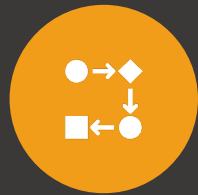
Efficient



Simple



Standardized



Automated



Scalable

3. Steps in Workflow

01

Planning

02

Organization

03

Documentation

04

Testing

05

Selection

Step 1: Planning a Project with Data

1.1. Planning

Main Idea: Set goals and work backward, Know data and work forward

- a. Resources
 - a. What types of files, programs, documents do you need and where?
- b. Storage/Backup
 - a. Where are files stored, what if the program you use goes out? Archive!

Step 2: Organization

2.1. Organization

Main Idea: Could someone else figure out what this is?

- a. Pick a mnemonic!
- b. Naming Conventions
 - a. Prefix/Suffix
 - b. CaMel, Und_er, Per.iod, Date(09.03.20)
- c. Create a directory structure
 - a. Main Subfolders: Working and Posted
 - b. Writing, Documentation, Syntax, Data, TabFig
 - c. Branch! Delete when Posted (DwP)

Step 3: Documentation

3.1. Documentation

Main Idea: Breadcrumb everything because we forget everything

- a. Project Log
 - a. Tasks, Thoughts, Decisions
 - b. Daily Choices
- b. Syntax Log
 - a. Decisions
 - b. Syntax Notes
- c. Variable Codebook
- d. Directory Codebook

					Project Example
Project	Level 1	Level 2	Level 3	Level 4	Purpose
/RMG					
	1. Docs				Documentation Folder
		Log.docx			Log file of data decisions and progress
		Codebook.xlsx			Variable Names, how calculated, and purpose
		/IRB			IRB Materials
	2. Working				Folder for Items being worked on
		ToDo.docx			List of tasks to do. Work backwards from research questions
		/Syntax			Folder for Syntax
			RMG_Import.do		Import the data: Will read Data in “Posted/Dataset”
			RMG_Analysis.do		Analysis & Write a smaller set in “/DatDer”
			/BRANCH	Test 1_DwD	Test Files to be reconciled back into Analysis
		/DatDer			
			RMGFull.dta		Data derived from the main set.
		/TabFig			
			RMGForm.xlsx		All Tables Formatted for manuscript
			/BRANCH	Test 1_DwD	Test Tables to be reconciled
	3. Posted				Folder for Fixed/Finished files
		/Dataset			Data to Read Only!– LOCK THIS FILE!
		/Syntax			Replicable syntax that can reproduce the whole thing
		/Figures_Tables			Final Tables/Figures

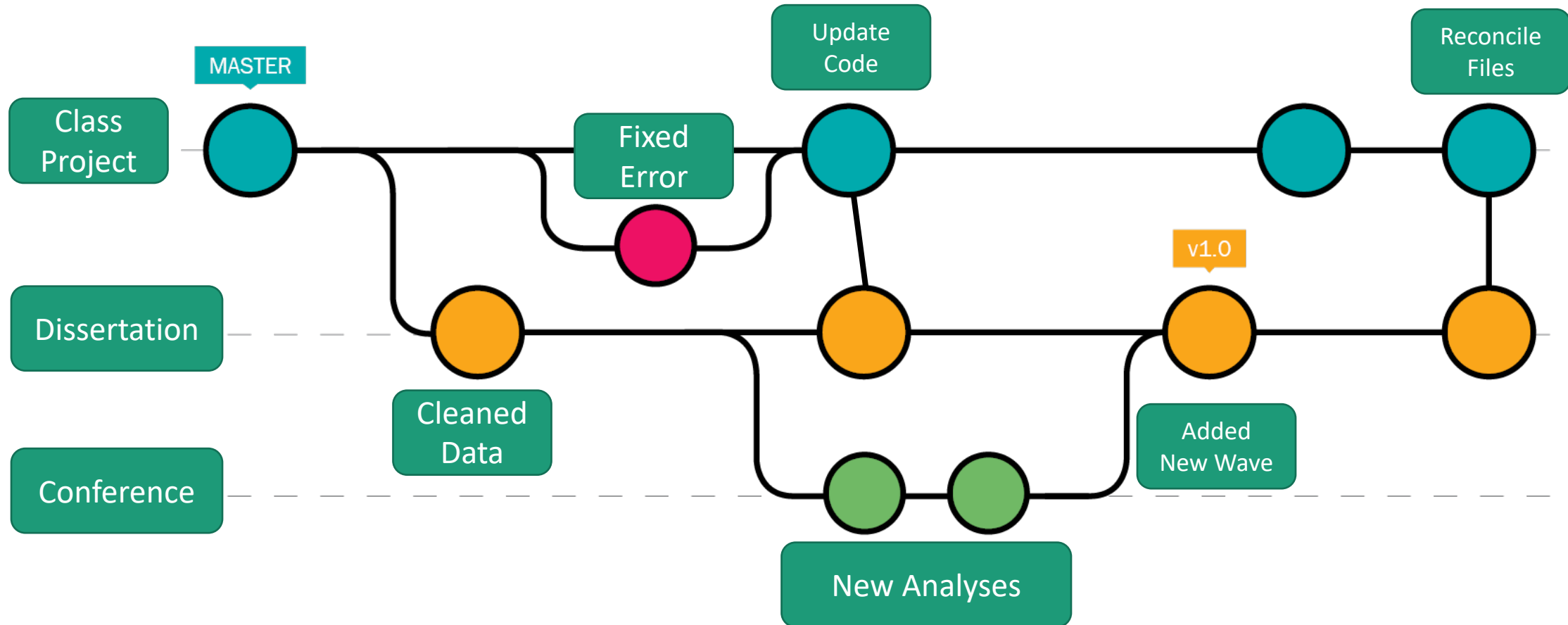
Step 4: Testing

4.1. Testing

Main Idea: Try out options & select one without making a mess

- a. Make a “Branch” File
 - a. In Tables, Data, Syntax files
 - b. Most important to Note in Log File!
- b. Decide & Reconcile
 - a. Make Decision & Pull Files into Main Folder
 - b. Keep other branches in File
 - c. Delete when “Posted” if Necessary; otherwise Archive in Posted

The Branch Concept



Try it out

- Pick a homework assignment, or writing assignment that has a bunch of files all over, or start prepping for a new project (you can use our data)


Use the main ideas:

Posted / Working

Documents, ReadMe, Log, Data, TabFig, Branch

Remember: Accurate, Efficient, Simple, Standardized!

Now you know everything!



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