CENTERING USERS WITHIN BEST PRACTICES: LET "GOOD ENOUGH" BE ENOUGH

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ABSTRACT

INTRODUCTION

Reproducibility research sits in a combined space of bleeding edge development and users who desperately need solutions now. This creates a tension between those who are focused on attempting to see the long-term path forward and those providing actionable recommendations for current users. This paper aims to provide reproducibility educators a framework to sort "best practices" into actionable and attainable practices for users using a behavioral change model to guide our approaches. Helping reproducibility educators know when "good enough" is actually enough to accomplish the essential elements of reproducibility.

METHODS

Several models of behavioral change theories were reviewed to determine which would provide the most flexibility for adoption within a non-health environment. Building on previous work (Wickes, 2017) to adapt this model into data management workshop design, this model was further adapted to better model user needs within the reproducibility context.

RESULTS

The behavior change model provides a mechanism to frame our expectations for the stages of adopting reproducible practices. However, the technical stack for reproducibility cannot be measured as a single behavioral change. Instead of seeing the adoption of behavioral change as a single linear process, we should think about it as multiple lengthy sets of changes.

DISCUSSION

Crosswalking behavioral change models from health behaviors and into adoption of reproducible behaviors allows us to have a shared vocabulary about where users are

within the stages of adoption. By placing users in these stages, we can design targeted intervention approaches for each stage. This framework also allows us to unpack exactly what we are asking of users. Simply changing "go to the gym" with "use reproducible practices" is not appropriate. Reproducible practices usually involve elements across an entire scientific workflow, meaning that it encompasses many tools and integrations. This should give educators pause to think about exactly how much we are asking people to within any recommendation.

This paper argues that reproducibility educators need to reflect on the technical skills required within our recommended best practices. Only by unpacking these technical stacks and viewing each layer as a separate behavioral modification can we better understand why users resist or ultimately reject incorporating reproducible practices within their work.

REFERENCES

Wickes, E. (May 2017). Reworking the workshop: designing data management workshops to align with behavioral change models. Talk presented at IASIST Annual Conference 2017.