

SWAR 09: Use of 1:1 sessions for training and supporting novice reviewers in the conduct of online systematic reviewing tasks

Objective of this SWAR

To compare different numbers of 1:1 online training sessions for training and supporting people to do systematic reviewing tasks.

Study area: Training

Sample type: Reviewers

Estimated funding level needed: Very Low

Background

When training a novice reviewer (or even an experienced reviewer) on a task online, it is challenging to know how much 1:1 support is needed [1] and whether this varies across the reviewers or the tasks. This SWAR explores the use of scaffolding [2,3] for online training. This is a successful strategy used in other learning environments to facilitate learning and to build community [4]. Scaffolding is developed through three steps, the collaborative interaction between learner and expert, finding and targeting the zone of proximal development (the gap between what a learner can do unaided and what can be achieved with the support of a knowledgeable peer, known as the “scaffolder”) and the gradual removal of the scaffold (support and guidance provided by the expert) so that the learner grows in proficiency and autonomy and can work independently with confidence [5]. Online training for reviewers is one way to incorporate the scaffolding method in an online health research environment.

This SWAR would help resolve uncertainties about the right balance of training and support and be useful for review team training in settings as diverse as public health, Wikipedia authors doing reviews, massive open online classrooms wishing to provide support through peer-to-peer “classroom” assistants and school children learning health literacy.

Interventions and comparators

Intervention 1: 1 session of reviewer task training and written instructions

Intervention 2: 3-5 sessions of task training and written instructions

Intervention 3: 10 or more sessions of task training and written instructions

Intervention 4: Written instructions alone (comparator)

Index Type: Full Review

Method for allocating to intervention or comparator

Various

Outcome measures

Primary: Task completion; Learner errors

Secondary: Learner self-rated confidence

Analysis plans

Task completion times, number of errors and self-reported confidence levels for the same number of tasks across different interventions would be compared using comparative statistics.

Possible problems in implementing this SWAR

Many researchers will train only 1-3 novice reviewers per review, so consideration needs to be given as to whether only one of the interventions would be used per review, per task or per “trainer” or whether each review, task or trainer could involve more than one of the interventions. Depending on these choices, comparisons might need to be done at a cluster level (between reviews or tasks) or at an individual level (between reviewers doing the same or different tasks in the same review). Some challenges after implementing this SWAR would be to decide where to report it and whether the findings for the optimal number of sessions would be consistent across different reviews and different tasks. This SWAR will have limited value if it is conducted in a small number of reviews or training sessions, or if the findings when it is implemented are not widely

accessible. With this in mind, we present the results of the first attempt at this SWAR within this record.

References

1. Sweller J, Kirschner P, Clark R. Why Minimally Guided Teaching Techniques Do Not Work: A Reply to Commentaries. *Educational Psychologist* 2007; 42(2): 115–21.
2. Vygotsky L., Thinking and speech. In Vygotsky L, *Collected works* (vol. 1, pp. 39–285) (Rieber R, Carton A, Editors; Minick N, Translator). New York: Plenum. (Original works published in 1934, 1960), 1987.
3. Wood D, Wood H. Vygotsky, tutoring and learning. *Oxford Review of Education* 1996; 22(1): 5–16.
4. Reingold R, Rimor R, Kalay A, Instructor's scaffolding in support of student's metacognition through a teacher education online course: a case study, *Journal of Interactive Online Learning* 2008; 7(2): 139-51.
5. Palincsar A. The role of dialogue in providing scaffolded instruction. *Educational Psychologist* 1996; 21(1 & 2): 73–98.

Publications or presentations of this SWAR design

Examples of the implementation of this SWAR

Price A, Albarqouni L, Kirkpatrick J, Clarke M, Liew SM, Roberts N, et al. Patient and public involvement in the design of clinical trials: An overview of systematic reviews. *Journal of Evaluation in Clinical Practice*. [Epub ahead of print 27 October 2017].

Price A, Burls AJ, Vasanthan, Clarke M, Liew S. Self-management open online trials in health [SMOOTH] an analysis of existing online trials [Protocol]. *PeerJ*. 2017; December 23 (<https://peerj.com/preprints/2671/>).

RESULTS The initial implementation of this SWAR used an incremental design in which we moved the same set of eight reviewers through the interventions (4 to 1 to 2 to 3) across the three reviews above for screening, data extraction, coding, and analysis. Learners were started with written instructions alone (intervention 4) but none of them completed the tasks and errors could not be assessed. Improving the written directions was not enough to change these results. All learners without exception expressed their lack of confidence. An instructional session was then added (intervention 1. After this intervention, learners expressed appreciation for the help and initial confidence. Six out eight attempted but did not finish tasks. The two that did complete the tasks had unacceptable error rates. All reported losing confidence when faced with completing the balance of tasks without support. Intervention 2 (3-5 instructional sessions and written instructions) was then introduced and proved to be the most successful with reduced error rates with 2 or less errors across all tasks as compared to 3 errors or more per task, all tasks completed and improved reviewers reported much improved confidence levels but this was not formally assessed.. When we tried to improve this further to reduce errors rates and hasten time to completion by offering intervention 3 to 4/8 reviewers (10 sessions and written instructions), we found no increased benefits for confidence levels, error reduction or independent task completion beyond that noted in intervention 2. The superior results of interventions 2 and 3 with these eight participants made it impractical to continue using interventions 1 and 4. It was surprising that the intervention benefits and failings were constant across tasks in the same review but that the learning advantage was not carried over for the same task with the same reviewer in another review.

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