Interactive comment on "Training citizen scientists through an online game developed for data quality control" *by* Barbara Strobl et al.

Anonymous Referee #1

General Comments This is a well written paper that focus on using a training game to educate citizen scientists on how to measure stream stage using the CrowdWater system. The novelty of this paper is its focus on quantifying uncertainty in citizen science data pre- and post-training using a gamification approach. Results show improvements in the users with the lowest accuracy but in general results highlight most users (70%) do a very good job before training/gamification is provided. I know of no other paper in the hydrologic sciences that has taken the approach presented here and as a result believe this paper will be a good addition to the literature. As a result of CrowdWater being a smart phone application-based system the methods described here should be transferable to other such platforms. I see the future of citizen since being smart phone application based and this will lay a good groundwork for training.

Specific Comments

Is there any way to get information on the six people that did not complete all the tasks? Was the training to time intensive or were they just not interested in the project.

Good Staff Gauge Placement vs. Good Rating Score: It would be interesting to know if there is any correlation between how well a user places a gauge and how well a user can identify a good gauge location. If there is a positive correlation would it be possible to just use one of these two training/gaming methods? While there is a bit of a novelty in playing this game, I think that some users may have short attention and too much training will turn them off of the system. Is there any way to know what the minimum training would be needed in order to improve the 30% that were below the acceptable level?

It is unclear what the significance was of a good game score being set at 245. Was this a pre-determined metric or a natural split in our participation data?

Use of "app" in Figure 7: The third column of the box plot is labeled "app", which I believe represent the user actually placing their own gauge in the application after doing through the training. I would suggest changing this label to something that makes it clear this is in the field/outdoor use of the system. This is the real-world implementation of CrowdWater. Just labeling "app" does not show that these users are now "going live with the CrowdWater system".

Do the study participants continue to use of CrowdWater? If so do they contribute more than the "average" user. It may be too soon to tell but it would be interesting to know through the use of gamification if users are more engaged for longer periods of time.

Technical Corrections: Line 70: Suggest removing the word "study" to simplify the sentence. Line 80: Citation for Goodchild should be 2007 Line 168: Suggest using the terms Pre-Training and Post-Training. Line 387: Suggest removing the word "already" to simplify the sentence. Line 705: Remove Paul, J.D. from author list