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Dear Editor:

I am writing to submit a revised version of COMSI-2016-09-0232 “Implementing an Open-access, Data Science Programming Environment for Learners” for publication in IEEE Computer. I and my co-authors appreciate the helpful feedback and constructive criticisms by the Associate Editor and the reviewers. I am pleased to report that we have addressed all their concerns as outlined below.

A key deficiency of our original submission was not including the original COMPSAC reviews. I apologize for the oversight, which has been corrected in the resubmission. Specifically, the reviews have been uploaded as a supplemental document. To briefly summarize them, they are extremely positive, asking only for minor edits to the manuscript.

Several reviewers raised the issue of our preliminary study having the sample size of 35 students. Although we share their concerns, we believe it is worth noting that we are reporting initial results on an ongoing project. We feel that these preliminary results can help other researchers/educators even in their current inchoate form. We also note that the issue of educating a broader population about computing is timely, including the President’s remarks and the subsequent NSF initiatives around the theme of “CS for All”. Thus, even preliminary results, we believe, are an important contribution to this national effort.

Another concern was the unclear link between Data Science and introductory computing. One reviewer explicitly mentioned a concern that our survey may have been flawed in asking students to consider different introductory contexts (e.g., students would be unable to recognize

what "Media Comp" meant as a context). We have revised our description of the survey results in Section III.D to better explain our methodology (e.g,. In the survey, we describe what a Media Comp context looks like, rather than calling it by the term “Media Comp” itself). We have also included a reference to a follow-up paper we have recently published that can provide more analysis of the value of Data Science as an introductory learning context. This is reference [3] cited in the Introduction section.

A reviewer requested some more details on the guided feedback feature of BlockPy. In Section I.D we have briefly expanded our description of this feature. The limit on word length prevents a more expansive explanation of this complex component.

Finally, although all reviewers noted that the references were “sufficient and appropriate” we recognize, as does Reviewer 1, that there is a much broader body of relevant work that we could cite both in the computing and education literature. We chose to use the limited space allowed to us to cite only the most relevant related work in the computing domain (see, references [1] through [12] in the Introduction) reflecting our understanding of the readership of IEEE Computer.

Sincerely,

Austin Cory Bart
PhD Candidate