Reviewer’s report

Title: A randomized controlled trial to examine the effect of two teaching methods on preschool children’s language and communication, executive functions, socioemotional comprehension, and early math skills

Version: 0 Date: 24 Apr 2019

Reviewer: Chiara Saracini

Reviewer's report:

I suggest the authors to restructure a bit the paper for publication. I report some advised changes:

1) In order to understand better the paradigm (which is really complex and full of nested variables, as you also acknowledge), I decided to look for your cited previous work, which in the manuscript is referenced [69] [link: https://bmcpsychology.biomedcentral.com/articles/10.1186/s40359-018-0239-y], and I realized that you first published a "Study protocol" paper and the present one is one of the further "Research papers" discussing different findings from the big study. In my opinion this should be stated before in the manuscript (for example, at the beginning of the "Aims" paragraph of the "The aims, interventions, questions and hypotheses of the study" section), because to me it was surprising to discover it so late during the reading of the paper.

Regarding the sequential numbering of the citations, I found that after citation [68] (line 271 of the manuscript), it jumps directly to the citation number [70, 71] (line 293), and the citation [69] is found later in line 333.

2) I also noticed that EEG suddenly appeared in the Methods section ("A subgroup of children was sampled to participate in the EEG testing", line 531) without being addressed anywhere in the background or previous sections and, while I personally know ERPs and how do they work, I think that other readers of the paper might want to know a bit more about the methodology, about what has been found in literature on this topic (ERP registered on children performing auditory attentional tasks), or at least why did you consider to use this methodology to add some important data in your study. It would be also easier for readers to understand your results about selective attention task. In fact, psychophysiological measures are not even mentioned in the research questions nor in the expected results, so I am not sure that it's clear why did you include EEG results in your report if you don't explain them. Citation [78] is one of the few references about electrophysiological measures in children, but it is only present in the References section and is not cited anywhere in the text. There are others [133, 134], but I cannot find in the text a part where you discuss about the components of the ERPs that you were looking at (N100, P200,
P300?), you only talk generally about "late amplitude" and "difference between attended and unattended responses". I understand that maybe this was not central in your study, but since you mention it, I would expect some words about this part (or you could omit this result from your report here, since I saw that you're going to discuss it in a deeper way in a paper to be published in Frontiers).

So maybe you could shorten part of the description of the protocol by simply calling out to the previous paper where you describe it very well, so you can spend words for more detailed content about the specific topics addressed here. I would also advice discussing only important results which add interesting information to our knowledge on the topic and refer to hypotheses or research questions, because the "Discussion" section is complex and difficult to follow.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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