Dear Editors,

Thank you for your consideration of our manuscript *The Words Matter in Early Reading Acquisition*. The paper reports on simulations of learning different early print learning environments (learning to pronounce printed words) in English using a connectionist reading architecture used in other simulation work in the cognitive science literature (Plaut, Seidenberg, McClelland, & Patterson, 1996; Seidenberg & McClelland, 1989) in order to investigate differences in learning outcomes in reading as a function of environment (learning different sets of randomly sampled words). This primary manipulation reveals noteworthy variation attributable to the ensemble of printed words selected for the learner. Additionally, we manipulated the representational capacity of models (by changing the number of hidden units, keeping ensemble of words constant) in order to answer a secondary question: do different ensembles of words lead to different patterns of performance depending on the capacity of the learner to represent the mappings between print and speech? We found that environment and representational capacity interact in an important way in that some ensembles that perform well at one level of representational capacity fail to perform comparably well when provided more (or less) capacity. Our experiments provide strong evidence that the selection of words during the early process of learning to read printed words is an important factor in related outcomes in the development of visual word recognition skills, and that the process of curating the child’s environment should take into consideration the capacity of the child to represent print and speech. Findings are discussed in the context of related issues in education, though our methods draw from those developed in the cognitive sciences.

The authors of this manuscript are as follows:

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We believe that our work is a good fit for *NPJ: Science of Learning* for several reasons. The experimentation focuses on basic learning processes at play in early child development (approximately ages 5 to 8 years) using established scientific models of learning to read. We also focus on a topic that is important in early schooling, especially in the United States where reading scores have reached historic lows based on measures of national progress in education (NCES, 2024). Finally, the study describes a method of experimentation through simulation that we think could become an important one in the process of translating science to educational practice, through simulating environmental factors in reading development in large scale in order to investigate effects that are difficult to study directly in human populations. We feel that these topics fit nicely into the aims and scope of your journal.

In terms of reviewers, we suggest any of the following individuals given their expertise in connectionist cognitive science: Padraic Monaghan (University of Lancaster; p.monaghan@lancaster.ac.uk), Ya-Ning Chang (National Cheng Kung University, Taiwan; yaningchang@gs.ncku.edu.tw), Christopher Kello (UC Merced; ckello@ucmerced.edu), and Stephen Welbourne (University of Manchester; stephen.welbourne@manchester.ac.uk). We suggest that Kate Nation not be asked to review our paper. Professor Nation has authored papers in your journal. While she is a highly esteemed member of the reading science community, she is broadly dismissive of the cognitive science underlying our research (namely connectionist cognitive science) despite its impact in the science of learning. We are concerned that she may not review our work in an unbiased way.

All authors have agreed on the current manuscript, and it has not been submitted elsewhere.

Sincerely,

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