

Investigating the development of knowledge using computational methods

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Learning can be thought of as an ongoing mental computation that occurs in children's minds and generates a system of knowledge. We can investigate many different questions about this mental computation, including (i) what learning strategies comprise it, (ii) what learning biases are involved in it, (iii) what knowledge representations are easily learnable with it, and (iv) when children learn different aspects of knowledge using it.

While my research primarily uses computational methods to investigate these questions in language learning, I will discuss some connections between my existing research and issues in education, in particular the use of computational methods to (i) assess when children learn different aspects of knowledge, and (ii) identify factors that contribute to learning delays. I will focus on the areas of literacy and mathematics education, discussing some components of reading comprehension and math readiness.