ABSTRACT
Augmented Reality environments have shown to be relevant and valuable in many instances of the educational process. Accounting for the advantages and conventional gains of learning through physical books and printed matter in general, this paper presents an approach towards augmenting both such media. This work has elementary school as a context and presents an approach towards augmenting a physical book and associated learning cards, with the purpose of providing a playful approach to learning the alphabet. The two principal activities involved in studying from an elementary school book are augmented: learning, during which the student receives information about letters, phonemes, and words, and practicing where questions are asked to the young student in order to consolidate the recently acquired knowledge. The proposed implementation is evaluated initially as to its performance and accuracy and then as to its usability and suitability for efficient and intuitive interaction.

INDEX TERMS
tangible interface, Augmented reality book, natural inter-action, educational software

CITATION
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Read all sorts of alphabet books to your children, even starting as babies. The repetition will really help your child learn the alphabet at a young age. When my oldest was born, I was surprised at how many alphabet books we had been given as gifts. We loved reading all of them because they were different from each other. I found that around 18 months both my kids really started enjoying reading alphabet books. Using sandpaper letters is a great way to introduce letters to children. My favorite ones are Didax Sandpaper Tracing Letters or School Supply Tactile Letters Kit. This is a perfect pre-writing activity because children use their finger to trace the sandpaper letters. I love that the cards tell the child where to start and which direction to go.