

Study: Lamination Materials, Shape Matter

By Julia Volkman

Many of us routinely laminate the card materials we use in our classrooms. Yet, as we go from school to school, we encounter myriad laminating techniques.

Some of us use a heavy 5 mm laminate. Some use a thin 1.5 mm laminate. Some of us use pouch laminators while others use roll laminators or cold laminators. Many of us paste materials on card stock before laminating, while others don't laminate at all.

It is curious that while so much of what we do is consistent from school to school across the world, how or if we laminate varies dramatically from one classroom to the next often, within the same building.

Dr. Montessori was constantly studying the materials she developed and how the children responded to them. So, with insight, wisdom and guidance from many others, I undertook a clinical study to see if different laminating methods made a difference to children or teachers.

It turns out that they do.

In doing the Lamination Study, I received a lot of help from Annette Haines of the AMI pedagogical committee; Tarin Weiss, an associate professor of Education at the University of Massachusetts-Amherst, and Pamela Allen of the United States Dept. of Education, Office of Non-Public Schools.

The study involved 11 Montessori classrooms—9 from the US, one in Montreal, and one in Paris—with enrollment of more than 240 students. It evaluated identical vocabulary cards laminated in distinct ways:

- Set A with a flexible, 1.5 mm laminate and square corners.
- Set B with a rigid, 5 mm laminate with rounded corners.

The cards were placed in identical baskets next to each other on the shelf for at least

2 weeks.

The overall frequency with which children chose Set A versus Set B cards was nearly equivalent. (This, it seems, was not because the children didn't care which cards they were using, but because they wanted to use both sets of cards at the same time for identical matching work). However, 83 percent of the children who stated a preference preferred Set B cards, primarily because they did not have "pokey" corners. Ninety percent of responding teachers preferred Set B cards and no teachers preferred Set A cards.

A very interesting finding was that damage to Set A cards was seen in 7 of the 11 classrooms (64 percent) while no classrooms reported damage to Set B cards. This indicates the probability, rather than the possibility, of damage to cards laminated with a thin laminate. When cards were damaged, the children were reluctant to choose any thin-laminate cards again.

Reviewing the study, I recommend:

- Use a 5 mm laminate (pouch or roll)
- Do not use a 1.5 mm laminate, as this was difficult for children to lift off the table and thus produced the probability, rather than the possibility, of damage to the cards (e.g. bending/folding/creasing).
- Round the corners on all cards with scissors or a corner-rounding machine (available as a hand punch at craft stores or as a manual stack corner rounder, such as the Diamond 1 or the CR-20, which can be found at many office supply stores).
- If you are printing material you intend to laminate, print it on a heavyweight paper (32-pound) and not card stock. Card stock tends to pull away from

the laminate; it does not adhere well and will have a shorter life than paper cards laminated with a 5 mm laminate.

I hope that this study will lead other Montessorians to formally study their tiny questions. As more data becomes available, more and more people are recognizing the wisdom, intelligence and beauty the Montessori approach offers the world.

Details of the study design are at www.maitrilearning.com/research

Julia Volkman is a Montessori primary teacher, the founder of Maitri Learning, the mother of a 12-year-old and a toddler and the current chairperson of the Montessori Vendors Association (www.montessoribooks.com).