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Timothy P Novikoff (tnovikoff@gmail.com), New York, NY. *The Familiarity Curve of the
Slow Flashcard System*. Preliminary report.

In the algorithmic theory of education there is a natural trade-off between reviewing/reinforcing old material and exposure to new material. This trade-off is captured in the recently introduced discrete, deterministic 'Slow Flashcard Schedule' (SFS) system; a mathematically simple system capable of remarkable complexity reminiscent of a quasi-random number generator. We further the recent work on the SFS by modeling the discrete and deterministic SFS with a probabilistic system that shares key properties with the SFS. From this probabilistic model we develop a continuous PDE model, which sheds light on the longterm behavior of the SFS. In addition to explaining the conjectured existence of the so called 'familiarity' curve, the derivation of a fully continuous model of learning allows for new avenues of research into a fundamental trade-off in learning. (Received September 16, 2014)