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**Wesley Calvert\*** ([wcalvert@siu.edu](mailto:wcalvert@siu.edu)), Department of Mathematics, Mail Code 4408, Southern Illinois University, 1245 Lincoln Drive, Carbondale, IL 62901. *Learning on Effective Concept Classes*. Preliminary report.

Much of the theory of PAC learning is built up around either very general set-theoretic assumptions (e.g. the proof of the equivalence of learnability with finite Vapnik-Chervonenkis dimension) or very specific finite counterexamples (e.g. algorithms or reducibilities on particular classes). Certain formulations around effective sequences of  $\Pi_1^0$  classes allow investigations in a useful middle ground.

From this computability-inspired perspective, we can investigate index set problems, the structure of the PAC degrees, and potentially the semantics of deep neural networks. This talk will describe progress on that program. (Received January 28, 2019)