Despite a voluminous literature on firm-level technological capability building in developing countries, there is still limited knowledge about the relative importance of different learning mechanisms as firms deepen their technological capabilities. To address this knowledge gap, this paper investigates the sources of learning used by firms in the Malaysian biomass boiler industry and the Chinese wind turbine industry enabling them to advance from production capabilities to innovative capabilities. The paper presents a framework that distinguishes between sources of learning to the firm that are: internal, local and global in nature. The paper finds that the learning mechanisms shift in a co-evolutionary pattern within and across these categories as firms develop increasingly higher levels of technological capabilities. The main contribution of the paper lies in the development and exploratory empirical application of a framework, which allows more systematic assessments of the relative importance of various types of learning sources as latecomer firms develop higher levels of technological capabilities.