Summary

The study examines the significance of Learning-by-Doing (LBD), an important source of increased productivity, in the Singapore construction industry. In light of low productivity in construction and of the trend towards globalisation of construction services, LBD provides the industry an alternative measure to boost productivity as well as build a competitive advantage for itself.

Regression analysis that analyses the relationship between aggregate construction output growth and the learning (experience) variable in a neo-classical production function framework was used. Secondary data, obtained from various government publications, were used to estimate the learning parameter.

Learning was found not to be significant, possibly as a result of the industry’s high dependence on imported construction technology, large number of small firms, industrial fragmentation, heavy reliance on transient and largely unskilled foreign workers, low levels of skills and educational qualifications, high incidences of organisational forgetting, and low proportion of professional and supervisory level workers.

The study recommends that steps be taken to make learning a significant component in the construction industry by addressing the impediments to learning and strengthening the ability to learn at the individual, project, firm and industry levels. At the individual level, measures include to further promote multi-skilled workers, apprenticeships,
teaching of learning skills, improving the physical and social environment of workers and
the provision of incentives. At the project level, use of procurement methods that allow
greater interaction among participants and project based partnering is suggested.
Measures to be taken at the firm level include the setting up of multi-disciplinary firms,
upgrading of firms with learning resources and vertically integrating firms. At the
industry level, it is recommended that technology support institutions be engaged
actively, and more efforts be directed at providing opportunities for the sharing of
information among firms through wired networks, conferences and publications.

The problems faced include the dearth of LBD literature on construction, the lack of data,
and general problems associated with the use of production functions and statistical
techniques. These problems had not invalidated the results.

Key Words: Learning By Doing, Construction Productivity, and Production Functions.

33,000 Words