## The Hawthorne Effect

In his excellent collection of energy saving examples "Cool Companies", Joseph J. Romm effectively compiles in one place data demolishing the whole idea of a "Hawthorne Effect". 342 (The Hawthorne Effect hypothesis claims that comfort, and physical working conditions have little affect on productivity; productivity increases stem from workers knowing manager are paying them attention.) He starts by quoting, Vivian Loftness head of Carnegie Mellon school of architecture on the bad results of this belief. "Executives constantly cite Hawthorne effect as clear disproof of any real linkage of productivity to the physical workplace - all that matters is management method. *This allows workers to be put into increasingly poorer work environments, smaller workstations, cheaper furniture, less work surface, less storage, no daylight or view, no control of air, temperature or light.*"

According to Romm the "Hawthorne Effect" has never been replicated in any experiments. He cites two major reviews of the literature.

A 1967 study by U.S. Office of Education conducted new field research aimed at reproducing the Hawthorne Effect and also included a review of published education studies. The field research could not replicate the effect; nor did the literature review find any evidence<sup>343</sup>

In 1989, a more comprehensive review of the literature examined every journal article, unpublished paper or dissertation included in three major databases and previous Hawthorne reviews. This found 38 studies that included Hawthorne control groups in addition to normal control groups. The review found no evidence of an overall Hawthorne Effect. "Mean effect associated with Hawthorne manipulation was non-significant and such groups could essentially be regarded as no different from notreatment controls<sup>344</sup>."

Omitting details, even the original two Hawthorne experiments do not support the conclusion drawn from them. In both experiments, there was greatly increased incentive for higher production, a promotion of small-group solidarity, and much greater feedback on performance than in the normal shop floor. In addition, in the second (and main) experiment, these workers had greatly increased control over their environment than on the normal shop floor. So these were actually experiments in feedback, incentive, and partial workers self-management!

Contrary to the usual descriptions, productivity did not constantly increase regardless of working conditions. Although the overall trend was steeply up, productivity fell almost as often as it rose. Modern statistical analysis shows zero correlation between "attention" and productivity in either Hawthorne experiment. However the second experiment's results do closely resemble a learning curve.

Given the studies cited that show that better lighting, ventilation and worker control of their own environment can improve productivity, the refutation of studies claiming that there is no such link, I think we can reasonably include productivity gains in the benefits of green building.

## **End Notes**

Appendix: "There Is No Such Thing As the "Hawthorne Effect"

<sup>&</sup>lt;sup>342</sup>Ibid 252

<sup>&</sup>lt;sup>343</sup>The Impact of the Hawthorne Effect in Experiment Designs in Educational Research, Final Report P1757, U.S. Office of Education Desmond Cook, 1967 - as cited by Cool Companies (252)

<sup>&</sup>lt;sup>344</sup> Hawthorne Control Procedures in Educational Experiments: A Reconsideration of Their Use and Effectiveness," Review of Educational Research Summer 1989 Vol 59 No 2 pp 215-228 John G. Adair, Donal Sharpe, and Cam-Loi Huynth as cited in Cool Companies (252).