Improving teamwork: the effect of self-assessment on construction design teams

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This research tested the hypothesis that regular assessments of the way teams function can help improve team performance. Teams of building designers were instructed to pause mid-way through a timed design task to evaluate their teamwork processes. Designers gave significantly more positive ratings of various aspects of their team working after assessing their team. An analysis of open-ended comments made at the end of the design task echoed this result. Further, the designers' ratings of team process were positively related to team outcome, suggesting a link between what design teams produce, and how effectively they work together. © 2000 Elsevier Science Ltd. All rights reserved

Since the 1960s, larger UK design firms have shown increasing interest in promoting teamwork in building design. More recently, attempts to incorporate teamwork practices in the design process have led some of these larger firms actively to seek out commissions and contracts where teamwork is a specified goal. However, despite its growing popularity, there has been very little rigorous study of teamwork practices in building design. In fact, although individual designers (and their decision-making processes) have been studied in the past, the integration of individual design work with teamwork is typically overlooked. It therefore remains largely uncharted territory.

The research presented here begins to map out this new land. It stems from a detailed study of teamwork practices in three British design teams working on high profile construction projects[1]. This work represented a first step towards documenting and understanding the intricacies of teamwork processes as related to practising design teams. Part of the research

1 Palmer, J M, Busseri, M A and Macmillan, S *Building teams: working together in construction design* Forthcoming from Construction Research Communication, London, UK (1999)

involved a series of controlled laboratory design sessions in which the researchers attempted to isolate and test the importance of several variables. These variables were thought to be related to effective teamworking. This paper reports the results of one such experiment—exploring the importance of team assessment and its effect on designers' perceptions of satisfaction and team performance.

1 Past research and theory

Teamwork is a multi-faceted concept—a rich and deceptively complex term. It has been defined as 'a small number of people with complementary skills who are committed to a common purpose, performance goals and approach, for which they hold themselves mutually accountable'[2]. Teamwork is also said to be characterised by[3,4]: helpfulness, coordinated effort, a shared approach to working, open communication, and friendliness.

Professionals from different backgrounds can work together in many different ways but in an *inter-disciplinary* team, team members strive to contribute beyond their disciplines' traditional boundaries. One engineering executive explained that in this kind of team, 'a designer's influence extends beyond their own skill base, beyond what they're contracted to do.' In practice, this kind of teamwork blurs the distinction between contributions from, say, an engineer and an architect[5].

Objectives of inter-disciplinary teams include[6]:

- breaking down stereotyped attitudes,
- improving the flow of information,
- refining the decision-making process, and
- increasing the efficiency and cost effectiveness of design procedures.

The term 'designer' is used in this paper to refer to each member of the design team—regardless of their profession. However, in practice the different people involved in designing buildings—architects, engineers, quantity surveyors, and client representatives—may not consider each other (or even themselves) as 'designers'. In any event, members of a true inter-disciplinary team accept responsibility for the design and strive to take part in all aspects of its development—in this way, each team member qualifies him or herself as a 'designer'.

Every building design project, every team, and every team member is unique. The way individual teams work together is equally unique. Consequently, recommendations for one team may not apply for another. However, Palmer et al.[1] identified a number of issues that could face teams during their respective projects.

2 Katzenbach, J R and Smith, D K *The wisdom of teams* Harvard Business School Press, Boston, US (1993)
3 Lawson, B *How designers think* Butterworth Architecture, London, UK (1983)
4 Hatcher, L and Ross, T L 'From individual incentives to an organization-wide gainsharing plan: effects on teamwork and product quality' *Journal of Organizational Behaviour* Vol 12 (1991)
5 Arup, O *Key speech, The Arup Journal* Vol 20 (1995) pp 34–37
6 Muir, T and Rance, B *Collaborative practice in the built environment* E and F N Spons, London, UK (1995)