ADDRESSING DISCORD IN THE TEAM: BEYOND THIRD PARTY MANAGEMENT

Andrew Whyte and H. Martin Edge

School of Construction, Property and Surveying, Robert Gordon University, Aberdeen, AB10 7QB, UK

Latent inter-professional conflicts exist within the building design team that run too deep to be influenced positively by a Construction Manager. Strict adherence to an organizational process that seeks to promote a specialist third party to oversee professional contribution, appears to advocate treating the symptoms of discord, instead of seeking a cure for a problem that has been found to have serious implications of cost and time. That problem must be traced to its root, beyond the practice stage.

Effective communication occurs where source and receiver have a high level of empathy. Current dissatisfaction with the processes of the building design team suggest low levels of empathy. This in turn links with cultural dissonance, which influences detrimentally both communication and innovation in building.

Two of the three factors that dictate formal and informal communication, the environment and the organization of project-specific building design teams, are constantly in a state of flux and open to influence from the construction manager. The third factor of communication, the role of the individual, is seldom addressed. This role is formulated by education. Research is presented that explores the factors influencing the nature of interdisciplinary relationships in the construction-design team at its formative stage.

Keywords: conflict, culture, education, interdisciplinary, professional.

INTRODUCTION

Latent conflict, stemming largely from the historical fragmentation of the UK construction industry, exists between building-design disciplines and is argued here to be too ingrained to be managed positively by third-party construction management. The innovative design team requires professionals to attach significance and value to the multi-disciplinary input of their fellow team members. Research indicates however that vocational disciplines have limited respect for professional peers and have little time for specialist input other than their own (Whyte 1996). This diminishes the interdisciplinary nature of innovative solutions.

The construction process and its multitude of activities provides ample opportunity for conflict to arise. The conventional method held to prevent dispute is the implementation of management procedures, contract management, and the inclusion into the contract documents of compensation insurances and dispute procedures (Baden-Hellard 1988). The conventional resolution of conflict and dispute in construction is the appointment, by the parties involved, of a third party to 'manage' the dispute and initiate the often timeous and expensive process of arbitration and contract litigation. These procedures occur after the event, and are often only taken when conflict has gone far beyond the point of professional inconvenience and decision discrepancy. The popular psychologist Edward DeBono suggests that '*on the*

Whyte, A and Edge, H M (1999) Addressing discord in the team: beyond third party management. *In:* Hughes, W (Ed.), *15th Annual ARCOM Conference*, 15-17 September 1999, Liverpool John Moores University. Association of Researchers in Construction Management, Vol. 1, 143-52.

whole, it is in the nature of society to encourage and spur on conflict right up to the point at which it becomes personally inconvenient. By then it can be too late to switch off' (DeBono 1989)

The discussion below explores opportunities for an environment in which professional interaction is optimally co-operative. Creative conflict management of the building design team is set against work that argues for resolving conflict at its source, held to be the formative stage of professional development. Research findings explore the development of professional antagonism throughout education, the different forms the educational experience takes, and how to overcome conflict through training initiatives.

Latent conflict

Conflict is perceived to exist by many building professionals and academics; there is a 'widely held view that there are deep rooted differences in attitudes, outlook, and ways of working between construction professionals which make it difficult to bring them together and that permeate the education system' (Franks 1992). Having been perceived to exist, latent conflict manifests itself more overtly in the integrative processes of the design team (Eraut 1990). The transformation from 'latent conflict' to that of 'overt conflict' is generally accompanied by negative feelings of hostility, thereby necessitating the design team to engage in a timeous integration of professional value systems rather than an integration of skills.

It has been argued that it is 'change: the alteration, by modification, omission or addition, to a project document, design process, or method previously approved or accepted which must take place, in response to and as the outcome of, conflict'. (Gardiner and Simmons 1992). As a result of data collected from client groups in an attempt to find a relationship between stage of conflict (briefing, design, or construction) and resultant change, it was found that almost two thirds of the recorded conflicts occurred at the design stage (Gardiner and Simmons 1992). Clearly this high incidence of conflict within the design team is a problem that must be addressed. However research has thus far been unable to present specific recommendations for a project to benefit from discord by creative management. Solutions must be sought beyond third party management and it can be argued that an alternative means of addressing the high incidence of conflict is required.

It is suggested that it is the professionals themselves, who must be made aware of the inherent latent conflicts that exist within the design team. Professions require to acknowledge, and be able to respond to the processes of change and innovation, to ultimately improve the integration of disciplines and the communicative processes of the industry (Faulkner and Day 1986). Project teams, composed of individuals with different expertise and viewpoints, are increasingly being held responsible for completing organizational tasks. The technological complexity of the future built environment presents problems for the industry. This has been documented by a number of reports, including the Technology Foresight Construction Panel which identified a number of 'engines of change' to address concerns by 'setting up mechanisms to ensure that all players in the construction process are kept well informed and their activities are fully co-ordinated' (Office of Science and Technology 1995). Co-operative multi-disciplinary activity is increasingly the only way towards innovative design solutions. The barrier of interdisciplinary conflict must be overcome.

Cultural roles

If inter-group conflict, argued to affect detrimentally the decision-making process of the construction design team is to be addressed, then a greater understanding of the variables of conflict are required. The evolution of 'cultural roles and values' which influence social interaction between building team disciplines requires assessment, before steps can be taken to address conflict and the adverse perceptions of professional hierarchies. Initially it should be acknowledged that each participant in a social interaction responds to the other in terms of their perceptions and cognitions of the other, these may or may not correspond to the others actualities (Deutsch 1973). Social interaction occurs within organizational structures, so perhaps simply belonging to a group or an organization is enough to result in member discord? Studies suggest not.

Investigation of conflict between professional and organizational norms, finds that conflict between an organizational and professional commitment was *not* inherent and its actual existence was low (Male 1984). As a consequence, there is little evidence to suggest that conflict occurs as a result of the increased bureaucracy imposed by membership of a larger multi-disciplinary organization. This being the case, the occurrence of conflict may be argued as being more open to influence from, what Deutsch describes as, '*the perceptions and cognitions of the professions interacting within established cultural rules and values*', than simply being part of a team. This has important connotations for the Higher Educational Institutions, since it is the educational stage of the building specialists' development, that is argued to be chiefly responsible for the evolution of the rules and values which make-up particular professional culture(s) (Andrews and Derbyshire 1992). It is logical therefore to suggest that, it is more the building professions and their value systems (developed largely through traditional vocational education), and less an adherence to generalist group organization, which influences the occurrence of conflictual exchange in the building design team.

Co-operative goals

Several studies have indicated that co-operative goals help people in different roles discuss their opposing views constructively and productively; in addition to expressing their views more openly individuals with co-operative goals ask questions more easily, demonstrate that they are working for mutual benefit, and integrate their ideas to create new solutions (Tjosvold and McNeeley 1988). On the other hand, competitive goals lead individuals to avoid discussing their views, trying to dominate, and being unable to integrate ideas and reach agreement. There is a consensus of opinion that having a common goal is the predominant reason for co-operation, however researchers are less clear about the conditions that lead organizational members to believe their goals to be co-operative, rather than competitive or independent.

Analysis of co-operation and competition lies in the nature of the way the goals of the participants in each of the situations are linked. A perfectly co-operative group occurs when participants can only attain their goal(s) if the others with whom they are working can attain theirs. Members are in what Deutsch describes as, a 'promotive interdependent situation' (where all goal linkages have a positive correlation between the attainments of the linked participants). However Deutsch also argues that the minimal conditions which must be met before a collection of individuals will turn into a co-operative system require (i) that the individuals must be aware of one another's

existence, and, (ii) they must share the same main objective and choose to co-operate with others. Clearly these conditions already exist (to varying degrees within existing procurement procedures and conditions of contract) in the building design team.

Deutsch also stipulates that the co-operative system requires, (iii) interaction which must be reciprocated in such a way as to confirm for each member their expectation of a mutually desired co-operative relationship, and that, (iv) individuals must be aware of themselves as a 'distinguishable entity'. These final two conditions are rather less clearly established in the fragmented design team. A key point to be developed here is that emphasis is made of the need to address (through development at the educational stage) the perceptions and cognitions of each participant towards their peers, in attempts to reduce conflict in the design process.

Deutsch finds that co-operation is induced by (and induces) a perceived similarity in overarching beliefs and attitudes. '*Positive attitudes result from perceptions of (overarching) similarity' and that these are 'determinants of open and effective communication*'. Mutual trust is also seen as a contributory factor in the communication processes of the group and '*the correctability of the individual's perceptions of a situation will be greater when that individual begins with a perception of mutual trust, rather than a perception of mutual suspicion*'. Again parallels may be drawn with the construction industry, where suspicion has historical precedent and dissatisfaction with the workings of the building design team is well documented.

It is argued that the development of conflict as stemming from a latent perception, which can quickly become an overt feeling of hostility, must be addressed before the design process can develop efficiently. Changing the mind-set of the professions, and their educational processes, towards an acknowledgement of a hermeneutic integration of interests, may diffuse latent conflict within the design team. Logically, an acceptance (facilitated by education) by the design team members of themselves as specialists within an 'distinguishable entity', will greatly reduce detrimental conflict, and improve co-operation within the group, regardless of the presence of a third party management systems.

Attitude study: rationale

It is argued that professional culture is based more on shared meanings and cultural norms, and less on language, communication media and presentation tools. Group misunderstanding, at a face to face level, should be treated as a cultural issue rather than an issue of individual personality (Schien 1985). Cultural differences can be said to exist within multi-disciplinary organizations in terms of: (i) differences in appropriate social rituals between disparate specialists and professionals; (ii) reliance on stereotypes rather than professional realities; and (iii) different non-verbal communication systems. These differences lead ultimately to communication problems within the organization and can be said to have an influence on communication, and ultimately the success of a project (Traudis 1987).

An analysis of multi-disciplinary relationships must concentrate on factors influenced by: perceived hierarchies, changing roles and the professional training of the participants. The innovative process is influenced by the *attitudes* which the organization members hold. Evidence suggests there is a positive relationship between education and attitude toward change and innovation (Jablin 1987). It is argued that acknowledging the potential of change, precedes a wish for a multi-disciplinary team to seek innovative solutions (Kanter 1988).

Conflict, which exists in an inter-personal and inter-group environment, is open to influence from the perceptions and cognitions of the members interacting within established professional cultural rules and values. Research looking at conflict resolution, finds that the process of communication, the perception of the group, and the attitude held toward peers, are positively linked in a co-operative organization, and that co-operation is induced by (and induces) a perceived similarity in overarching beliefs and attitudes (Putnam and Poole 1987). Positive *attitudes* therefore are argued to be determinants of open and effective *communication*. It is argued that professional attitudes can be studied using an individual's opinion of conventional and more recent building professional stereotypes, and that perceptions of peer group empathy (attitudes which affect ego, involvement and trust) influence co-operative input to the innovative design process (Vari-Szilagyi 1987).

Much previous research, argues that differences in dealing with people are largely a matter of values and attitudes, and that these attitudes *can* be modified by 'training'. Indeed it is argued that what a specialist does when dealing with other disparate disciplines, is determined by what their attitudes let them do (Hastings 1986). The way to improve interactive skills, therefore, is argued here to be largely a function of influencing positively professional attitudes and behaviours.

METHODOLOGY

An internally developed Likert-style attitude-scale, developed to examine public domain beliefs, feelings and behavioural tendencies, was subject to the standard procedures of validation and reliability testing (described in full in Whyte 1996). The attitude-scale (described to participants as a 'questionnaire') charts the evolution and development and potential for change of professional attitude. The 24-item questionnaire seeks the respondents attitudes towards disciplines, other than their own, making up the building design team and highlights attitudes towards creative motivation, orientation to other people, mental habits, purpose and responsibility, information handling, social status, level of training received, level of education received, contribution to the building process, usefulness of information provided, and, leadership.

Ultimately the information gained can be used to adapt integrative training techniques to best suit identifiable groups by assessing the significance of differences between the attitude scale responses of two or more sample groupings. The methodology embraces longitudinal comparison (that is, a comparison of the different stages of a vocational course over several years), as well allowing investigation of the differences 'before and after' short-term multi-disciplinary training initiatives. Non-parametric tests, allow assessment of the significance of differences between the attitude-scale responses of two, or more, independent sample groupings.

CASE STUDY

Experimental case study sample groups were identified. Sample groups were made up of students from separate vocational University Honours Degree courses. These University disciplines, and their respective course make-ups, were held to be representative of the building professions and professional differences. Respondents were categorized by University, course, stage of study, and as pertaining to either of two educational approaches. The first of these approaches was to teach the different disciplines in isolation, the second involved participation in educational initiatives

designed to encourage multi-disciplinary building-design activities (periodic integrated workshops involving several other courses in role-play projects).

Research findings: the development of antagonism

A key finding indicated that attitudes towards other disciplines gets worse as students progress through their respective academic courses. A comparison of attitudes displayed by full-time Quantity Surveying students as they progress from the initial stages of vocational education to the final stages of vocational education, display a significant drop in favourability towards their design team colleagues *after* stage 1 (Appendix A). A similar trend, although not statistically significant, is displayed by Architectural respondents (Appendix B). Clearly participation in the educational process affects negatively student affinity towards the 'disparate' design team colleague. Whilst there are many variables that may influence this sudden significant drop in attitude score towards disparate professional colleagues, it appears logical to suggest that the *full-time* student's realization of their own professional worth to the building design process, may be a major factor. Developing knowledge base(s) in an isolated academic environment, vocational *full-time* students quickly (findings suggest after stage 1) come to see their role to be *more* than simply:- (i) providing specialist support to the traditional team leader in the case of the Quantity Surveyor, or alternatively, (ii) providing the initial design information for development by others, in the case of the Architectural students

Stage-1 Architecture *part-time students* displayed a significantly less favourable attitude towards non-design oriented (QS) profession than *full-timers* in terms of the non-design discipline's aptitude for *contribution, management skill, organizational skill, perceptiveness,* and *helpfulness*.[1] Stage 3 QS *full-time* student respondents, who are more attuned to developing and promoting their own specialist skill in an academic environment, and less attuned to performing in the traditional hierarchy of practice, are significantly less willing to accept the (Architectural) design professions *prestigious place, ability to lead,* and *ability to recognize responsibility to other specialists* in the design process than *part-timers* at the same stage . It becomes clear that *full-time* students in a relatively isolated academic environment appear to develop attitudes dissimilar to their *part-time* student colleagues, who are more attuned to the restrictive nature of the traditional building design team. Indeed it has been said that higher education may instil students with *too high* an opinion of their own relative worth(s) to the building design team; and that less problems would arise if they were simply prepared only for those tasks which are required by the traditional building design process (Whyte 1993).

Whilst such an assembly-line manufacturing-outlook may indeed represent a logical solution to the problem of difficulties in communication between disparate professional disciplines, *innovative* building design requires a more holistic approach from its specialists. Good building design requires professionals able to go *beyond* a production-line mentality of semi-skilled operators only able to bolt on their respective parts without knowledge of the whole picture. Higher Education must continue to inspire students if building and construction is to be effective, efficient and innovative. Higher Education must also however encourage empathy among disparate specialists.

[1] attitude constructs developed from factor analyses of course-specific attitude-scale replies

At present it would appear that full-time vocational education, instilling a wish to realize fully a dynamic professional potential, develops attitudes that are at odds with the co-operative multi-disciplinary approach demanded by today's technologically complex building industry.

Research findings: interdisciplinary project work

The concerns identified above have prompted, independently, several UK institutions to provide vocational students with an awareness of the need for integration via interdisciplinary project work. One such existing experimental training programme (described in full in Whyte 1996), seeking to integrate 'disparate' building disciplines, was identified for investigation. The initiative was examined in terms of it's ability to instil favourable attitudes towards fellow-practitioners in other fields. The interdisciplinary project, delivered at the intermediary stage of honours degree courses, sought to encourage interaction and the integration of specialist skills gained through vocational education. Summarizing the results gained, when the overall attitude-scale score towards disparate disciplines *before* the project was compared with the overall attitude-scale score measured *after* participation in the project, no significant difference was found. However post-project scores *were* found to record a higher attitude-scale mean rank score, than those before. In other words the post-project attitude scores held towards design team colleagues were *more favourable,* than those before the project took place. This *more favourable* attitude development can be attributed chiefly to participation in the intensive, structured interdisciplinary project. Information regarding the development, internal validity, reliability, control mechanism and application of the attitude scale questionnaire are described in full by Whyte (1996).

Generally speaking this finding indicates that this intermediate stage multi-disciplinary project instilled an overall trend towards a more favourable attitude to design team colleagues. This project shows that educational integration initiatives do indeed go towards addressing the need to bridge cultural differences instilled by vocational traditions in the educational process.

When examined more closely however, the project simply intensifies originally held positive attitudes about a profession, rather than address the potentially detrimental, negative attitudes concerning design team peers. Attitudes before the project concerning the Quantity Surveying profession's *low status, unsuitability to lead, uncooperative outlook, low project contribution* and *limited idea development* were unchanged. On the other hand, positive attitudes such as being *a well trained accurate efficient pragmatist* were, as a result of the project, compounded. Similarly, attitudes held towards the Architect as a *good idea developer,* with *good specialist knowledge*, were improved by the participation in the project, yet after the project, attitudes held that regard the Architectural profession as *isolationist,* and *uncooperative in the development of ideas and information* also remained unchallenged.

Examination of the attitude-scale changes indicating intensified attitudes towards the Architect being *isolationist* and *uncooperative*, and the profession of Quantity Surveying as an *uncooperative yet pragmatic support profession* unfortunately fail to encourage informed debate and an analytical approach to future project briefs. The development of skills in the definition and management of tasks within a group situation are largely unfulfilled; indeed 76% of respondents think that the 'other' profession simply exhibited value judgements common to their own chosen discipline,

and subsequently performed 'only' their required necessary professional tasks. A key finding is that to be successful those charged to develop future educational initiatives, to improve further attitudes towards peers must firstly conduct a detailed, objective identification of variables (identifiable through attitude-scale survey) detrimental to integration.

So, are educational initiatives such as this worth the great time and effort spent in their development and implementation? The answer is yes; since detailed analysis of the experimental educational initiatives shows that it *is* possible to modify positively attitudes towards other professions. However it is repeated that the structure and staging of interdisciplinary training programmes must be carefully addressed (ideally through the attitude analysis techniques described) before success, in terms of multi-disciplinary empathy, can be achieved.

SUMMARY

This paper argues that interdisciplinary conflict, stemming from the historical fragmentation of construction, runs too deep to treat the symptoms with specialist Construction Management, and that there is a lack of empathy in the design team caused by cultural dissonance. Whilst environmental and organizational factors of the design team are periodically under review and largely fall under the influence of construction managers, the role of the individual is not addressed in practice. This role is formulated in education and as such requires research exploring interdisciplinary relationships in education.

Co-operation is contingent on valuing other professions and research shows that professional education progressively works to ensure that they do not. Principally it is argued that the design team needs to address disparate value systems and that it is the professions themselves that must recognize and respond to conflict, and not rely on third party co-ordination. An important consideration is not the organizational work-group, but the professional culture instilled in education. Case study of educational initiatives have identified the need for reciprocated interaction and self-awareness but this has largely been overlooked by educators. Higher education is therefore charged to improve interdisciplinary initiatives able to educate prospective professionals to acknowledge a commonality of interest.

Future work

The way towards a more efficient team process, and ultimately a more effective product, is through educational initiatives able to instil interdisciplinary empathy. Developing the ideas presented here to facilitate educators to *improve* interdisciplinary communication processes, interdisciplinary interaction and the final product, on-going and future research activities are currently exploring opportunities to link methodologies described above with trends in interaction via IT and Computer-Integrated-Construction

REFERENCES

Andrews, J. and Derbyshire, A. (1992) *Crossing boundaries: a report on the state of commonality in education and training for the construction professionals*. London: Construction Industry Council

Baden-Hellard, R. (1988) *Managing construction conflict.* Harlow: Longman.

DeBono, E. (1989) *Conflicts: a better way to resolve them*. London: Harrap.

Deutsch, M. (1973) 'The resolution of conflict: constructive and destructive process' New Haven. Yale University Press.

Deutsch, M. (1980) Fifty years of conflict. *In:* R. Festinger (ed) *Retrospections on social psychology.* Oxford: Oxford University Press. pp.46–77.

Eraut, M. (1990) CIC Educational Conference, as cited in Owens' Education for the 21st century' Architects journal, 03.10.90.

Faulkner, A. and Day, A. (1986) Images of status and performances in building team occupations. *Construction Management and Economics*. **4**(3), 245–260.

Franks, J (1992) Construction conflict management- the role of education and training. *In:* P. Fenn and R. Gameson (eds) *Procs of the first International Construction Management Conference.* UMIST, Manchester, Sept 1992. London: Spon.

Gardiner, P. and Simmons, J. (1992) Analysis of conflict and change in construction projects. *Construction Management and Economics.* **10**(6), 459–470.

Hastings, C., Bixby, P. and Chaudhry-Lawton, R. (1986) *The super-team solution: successful team-working in organizations.* Aldershot: Gower.

Jablin, F., Putnam, L., Roberts, K. and Porter, L. (1987) *Handbook of organizational communication: an interdisciplinary perspective.* Newbury Park, CA.: Sage.

Kanter, E. (1988) When a thousand flowers bloom: structural, collective, and social conditions for innovation in organization. *Research in Organizational Behaviour*. **19**: 169–211.

Male, S. (1984) *A critical investigation of professionalism in quantity surveying*. Unpublished PhD Thesis, Heriot-Watt University, Edinburgh, UK.

Office of Science and Technology (1995) *Engines of change*. Technology Foresight Construction Panel, London: HMSO.

Putnam and Poole(1987) *In:* Jablin, F., Putnam, L., Roberts, K. and Porter, L. (1987) *Handbook of organizational communication: an interdisciplinary perspective*. Newbury Park, CA.: Sage.

Schien, E. (1985) *Organizational culture and leadership*. San Francisco: Jossey-Bass.

Tjosvold, D. and McNeeley, A. (1988) Innovation through communication in an educational bureaucracy. *Communication Research.* **15**(5), 568–581.

Traudis, H.C. and Albert, R.D. (1987) Cross-cultural perspectives *In:* Jablin, F., Putnam, L., Roberts, K. and Porter, L. (1987) *Handbook of organizational communication: an interdisciplinary perspective*. Newbury Park, CA.: Sage.

Vari-Szilagyi, I. (1987) A study of professional attitudes amongst architects. *European Journal of Social Psychology.* **17**: 33–43.

Whyte, A. (1993) *Interviews with academia (Leeds Metropolitan University).* Unpublished Internal paper, Robert Gordon University, Aberdeen

Whyte, A. (1996) *Building design team communication: practice and education.* Unpublished PhD Thesis, Robert Gordon University, Aberdeen, UK.

APPENDICES

Appendix A

Kruskal - Wallis 1 way Anova:
QS attitude scores by stage of studies

Mean rank	*Cases*	*Stage*
75.86	54	Year 1
58.77	24	Year 2
64.93	27	Year 3
50.20	25	Year 4
	130	Total

corrected for ties

Chi-Square	D.F.	Significance
8.99	3	**.0293**

(Where value ≤ .05 *is* significant)

Appendix B

Kruskal - Wallis 1 way Anova:
Arch attitude scores by stage of studies

Mean rank	*Cases*	*Stage*
101.27	104	Year 1
77.34	41	Year 2
101.64	29	Year 3
99.15	17	Year 4
	191	Total

corrected for ties

Chi-Square	D.F.	Significance
5.98	3	**.112**

(Where value ≤ .05 *is* significant)