VISUAL PLANNING; HOW DESIGNERS CAN FACILITATE IT AND HOW IT FACILITATES UNDERSTANDING IN MULTI-DISCIPLINARY TEAMS.

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ABSTRACT:

With the current trend of moving design away from agencies and design heroes, and into the realm of industry itself, we see the designer becoming the design facilitator, one tooth in the cog of the multi-disciplinary design process. With this in mind, can design facilitate the visual planning of aspects of a group project, bringing greater understanding to the individuals involved? If so, can the construction of a model of these processes, created communally by a team upon the outset of a project, build bridges between disciplines, act as an ice-breaking tool between individuals, and create shared intellectual 'space' for the group? This paper will look into the possible benefits of

group visual planning and discuss how aspects represented in a model may aid in the creation of understanding, ice breaking, and the construction of "shared space" for the group as a whole.

1. TEAMS VS. GROUPS.

A team has a small number of people with complementary skills who are committed to a common purpose, performance goals, and a common approach for which they hold themselves mutually accountable. (Alleman G, 2004)

Ideally teams have strong leadership, a strong sense of cohesion, and a collective consciousness that individuals identify with and feel a part of. In order to promote this open communication within a team is essential, fostering an environment where roles are understood, in which differences of opinion can be freely expressed without judgement, and where the ability to accept and give criticism in a supportive, open manner promotes the development of creative tension. Members should be flexible; performing different tasks or functions as needed, aware of the strengths and weaknesses of his, or her fellow team members, and possessing a strong sense of equality with one-another.

Groups, on the other hand, tend to lack a sense of cohesion, acting more as a group of individuals and often getting 'bogged-down' by trivial issues. Communication tends to be centred on individuals, whose positions are more important than a collective opinion. (Alleman G, 2004). Group members tend to be less flexible; this may be due to continual defense and argument over individual opinion and reward systems. Edward De Bono advocates that a state of continual defense and argument is contrary to the creative environment, energy which could be used constructively in attaining a common goal is wasted defending ones own point of view and attacking the ideas of others. (De Bono, E. 1985).

2. POWER STRUCTURES AND THEIR EFFECT ON CREATIVITY.

Of course the previous aspects of team relationships are somewhat idealistic, but it may be the case that these conditions do exist in the most effective teams. When embarking on a team project, individuals cannot prevent personal views, prejudices, or even their current state of mind from affecting their behaviour, and therefore the intrapersonal relationships of the team. In a

recent interview, Ashok Ohri, psychologist and director of OSDC (Organisation and Social Development Consultants, a company providing research, training and consultancy in the fields of capacity building, organisation and human resource development.) discussed the problems encountered by teams relating to power structures, prejudice, and mental state and their adverse effects on creativity. Mr Ohri stated that the correct conditions must be set to encourage creativity, conditions not un-surprisingly dissimilar to those mentioned in the preceding section. Openness, equality, a common identity and shared ideology. He suggested the greatest barrier to the effective working of a team was the power structures that are inherent in everyday society and the institutions in which we work. In his opinion the only practical way to deal with these problems was to address them immediately upon the outset of a project, knowing why an individual is assuming a particular role, or gaining understanding of ones colleagues helps erode these barriers. Your boss may not necessarily be included on the team because he, or she is your superior, but for the particular skills they posses which are relevant to the project.

3. TEAM DEVELOPMENT AND PERFORMANCE.

As described by Bruce W. Tuckman in his paper, Developmental Sequence in Small Groups (Psychological Bulletin, Vol.63, 1965), when teams are brought together for the first time they pass through four behavioural stages: 'forming', 'storming', 'Norming', and 'performing', whereby team members progress from the awkward formality of first encounters, through clashes and argument, to reasonable levels of accommodation before finally establishing trust and giving mutual support. (Spence, Macmillan, & Kirby. 2001)

Forming: this is when the group is a learning to deal with one another. This phase is the one of least productivity.

Storming: this is the phase of stressful negotiation, where the decisions of how a team will work together are made.

Norming: where the team roles are accepted, information is shared and the group begins to work as a team.

Performing: where the team performs to its optimum in productivity.

In 1977 Tuckman and Jensen revised his Developmental Sequence introducing one more stage, adjourning, the final phase of the team project, where the team go through a process of self-evaluation, and members experience anxiety over the break-up of the team and the conclusion of the project.

All teams go through these stages of struggle and adaptation and although critical for team development, It seems however, that it is beneficial to a team's performance to progress from the "forming" stage to "performing" quickly, and with a minimal amount of upset, indeed this may well be the deciding factor between the teams success and failure.

Glen B. Alleman proposes: that the real problem is how to identify when a stage is complete. Is it when the team members agree that the stage is complete? When the team coach thinks it's complete? Or does the team simply move on to the next stage? (Alleman, G.B. 2004). He suggests "exit criteria" for the stages must be defined by the team prior to them moving from one phase to the next, identifying when a stage is complete and making the factors needed for it's completion explicit to all concerned.
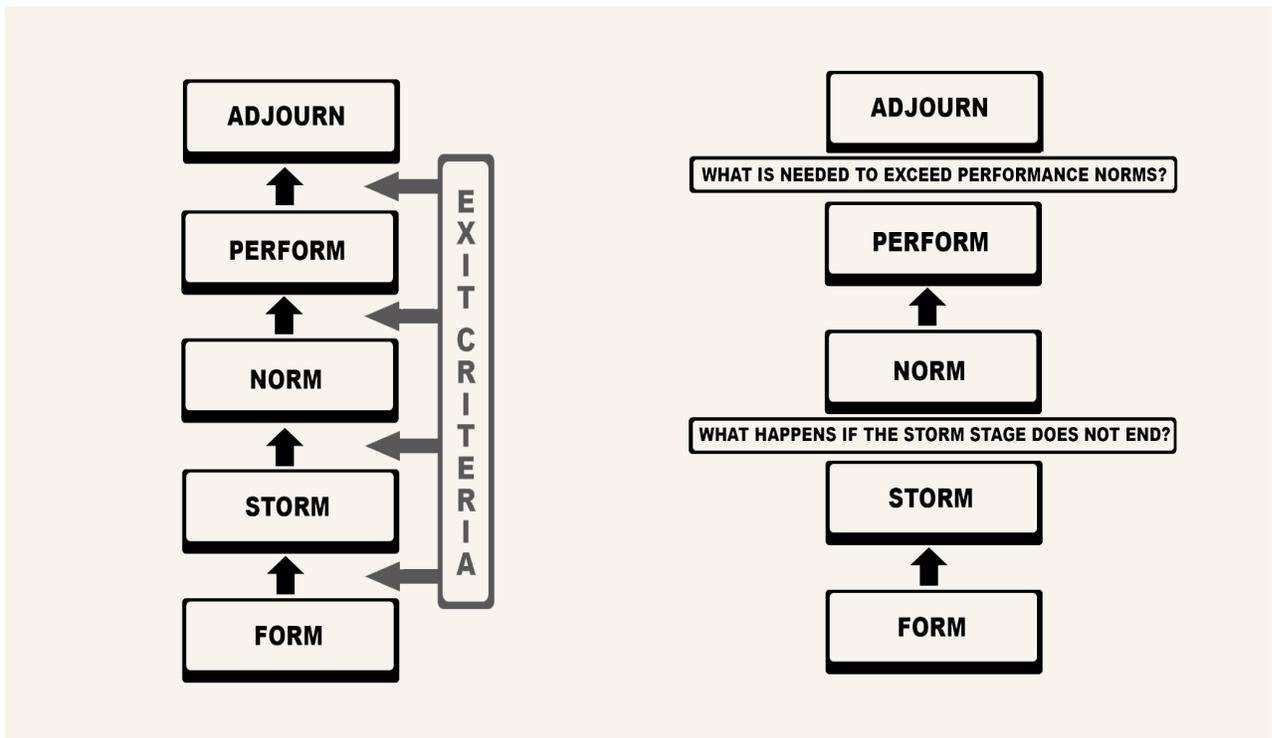

Figure 1.The stage model of team development After Tuckman & Jensen 1977,with Alleman's Exit criteria in place.

Figure 2. Two important questions left unanswered (Rickards & Moger, 2000).

Rickards and Moger purport that team relationships and dynamics are far more complex than the Tuckman & Jensen model would allow for, they point out the existence of "barriers" between the stages of the Tuckman model which must be tackled by the team before progress can be made. They propose an alternative "two barrier" model: The first barrier represents the interpersonal and intra-personal forces that have to be overcome prior to norm formation. The second barrier is a more difficult one for teams to pass through. It represents the forces that are overcome when a team breaks out of the conventional expectations within a particular social context such as a corporate culture (Rickards & Moger, 2000).
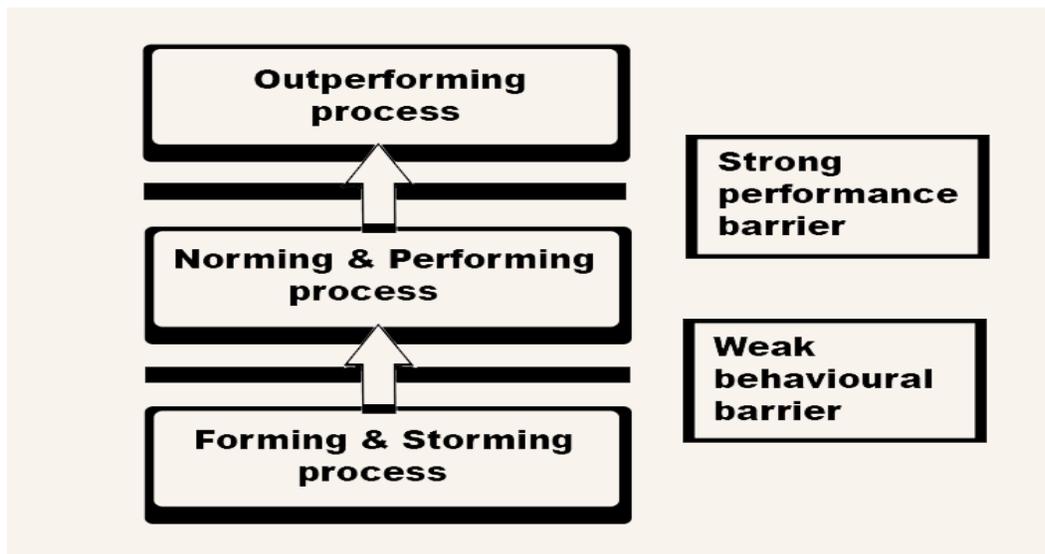

Figure 3. The revised model of team development introducing a weak barrier to standard performance and a strong barrier to exceptional or creative performance (Rickards & Moger, 2000).

It is "assumed" that most teams pass through the first "weak" barrier fairly easily. This however is not always the case, in their experience over several years, as many as 15% of teams may prove to be dysfunctional or not progressing through the first barrier. Some teams in their studies state that "the difficulties of resolving team issues are reduced if a conscious effort is made to address [team] roles and responsibilities." (Rickards & Moger, 2000)

It is concluded, "that there is a need for greater understanding of ways of accelerating the progress of teams towards higher norms of performance." (Rickards & Moger, 2000). They suggest that discussion of team roles, collective planning of the project, and addressing strong emotional reactions that too often are suppressed is beneficial to team progression, promoting self-awareness and opening possibilities in identifying acceptable team roles. They do feel however, that although addressing these issues at the outset of a project allows smooth transition

from 'Forming' to 'Performing', it does not address questions relating to how a team 'Outperforms' or does something exceptional. Several other methods are cited as being more likely to facilitate this: Platform of understanding (POU): The creative leader explains that at the start of any creative effort, a team benefits from exploration of shared knowledge, beliefs and assumptions. These elements comprise a 'platform of understanding' from which new ideas develop.

Shared Vision (SV): At the POU stage, the platform of understanding is examined by the team to suggest perspectives. The dominant perspective amounts to a shared view. The standard view is one mostly constrained by habit and assumptions.

Climate (CLI): The team leader emphasises the importance of a positive climate.

Resilience (RES): The team leader emphasizes the principle of seeking alternative perspectives when dealing with dashed expectations.

Idea Owners (IO): Efforts are made to build commitment to ideas. The team leader encourages deliberations designed to align the ideas within regions over which tem members have know-how and control.

Network Activators (NA): Capturing and importing knowledge through external networking.

Learning from Experience (LFE): The creative leadership interventions have been explained as a means of achieving experiential learning. (Rickards & Moger, 2000).

4. THE CHANGING ROLE OF THE DESIGNER.

In the past decade we have seen the designer move from being a designer of things to become a designer of processes, a facilitator for the design process. It has become more important to conspire with, rather than work for, the client. This role of facilitator is one where the designer must be more aware of human relationships and emotions, promoting discussion and providing focus for the group, but more importantly offering expertise in visualisation.

Design needs now to be more about designing ways to make complex, abstract ideas visible than about making objects. (Brown, 2000). Visualising brings abstract concepts into real world; done properly it creates understanding, communicates ideas, and allows us to analyse them.

We need new tools, we need models for planning systems, for thinking about the elements and the rules together, for thinking about how systems integrate with other systems embedded in systems of yet more systems. We need models not just of what appears on computer screens, not just of pathways, not just of interactions. We now also need models of goals and contexts. We need models of abstract ideas. (Brown, 2000.)

No one perceives visual metaphors in the same way. As IDEO's client cards demonstrate, visual metaphors are not necessarily interpreted by the client in the same way they are perceived by their designer. This may tell us a lot about the emotional stance of a client but it still takes the designer to interpret the subject's reaction, in order to bring understanding of the client's problem that may be articulated in a card session. In the same way, a designer could visualise on behalf of a group of individuals, constructing a visual plan of their project.

5. WHY USE VISUAL PLANNING?

Given the opportunity, a team could determine the forms representing particular actions or attributes of their working scenario, thus clarifying and personalising the visual plan during its construction. This group modelling could act as a focus, encouraging discussion, allowing expression of points of view, removing team members, mentally, if not physically, from the normal institutionalised working environment and thus encouraging behavioural change, allowing people to build upon each others thinking and giving a feeling of ownership of the project to the individuals involved.

The use of such a visual model may also aid in gently introducing some of the more unusual or radical techniques used (especially in design) today, indeed at IDEO's Palo Alto office clients are initially met in a traditional setting before being introduced gradually to IDEO's more unorthodox working practices.

Designers have a prescriptive rather than a descriptive job. Unlike scientists, who described how the world is, designers suggest how it might be. Designers are therefore all futurologists to some

extent. The very essence of their job is to create the future, or at least some features of it. (Lawson, 1999).

Whatever the journey you're taking, it is always advisable to have a map or guide before setting out and the same is true when embarking on a project. When working on a team project, individual members of the team should have a clear picture of the actions and roles of their colleagues, otherwise they may unwittingly duplicate each other's work, leaving areas uncovered and resulting in stress and confusion. Creating models and plans, especially as a group, forces individuals to interact around them, defining roles, developing relationships, and encouraging people to collaborate in order to solve common problems. This interaction also leads to common understanding, quickly creating bonds between individuals and accelerating their progress.

Collaboration is the process of shared creation – not just the co-ordination of activities in which you get to do this and I get to do that, and in two weeks we get together to match up the pieces only to find out they don't' fit – and so begins the iteration process. Collaboration means shared creation. It's probably the most important process and the most important relationship you have to manage if you want to innovate. (Schrage, 1993).

6. DISCUSSION

In order to manage, and therefore innovate, we must make the processes involved explicit. The act of creating a model encourages commitment and familiarises team members with each other. Individuals can represent skills, and in doing so give greater understanding of their value and the roles they perform. These are all ways a visual plan can accelerate a team's progress and act as a social 'ice-breaking' tool. Through the construction of a visual plan we can demonstrate links and relationships and the framework they create. By doing so as a team, interacting around a model, and involved in its construction it may be possible to create a psychological change within the group, encouraging people to think out of the institutional mindset and power structures, and therefore developing creative relationships with one-another. Visual planning has been used extensively in the past, but not necessarily for the creation of shared intellectual space.
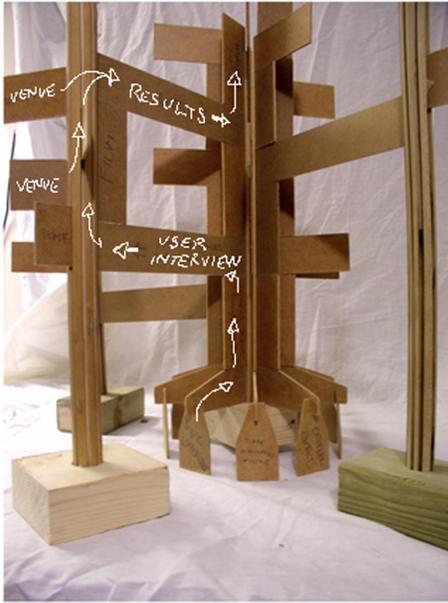
Figures 4 & 5. First prototype model kit made by the author. Arrows denote progress of one aspect represented and the connections with external factors necessary for the project.

It is the author's intention to use a 3-D model kit to facilitate the creation of a representation of a team project. It is hoped this will permit the formation of a visual matrix 'in-the-round', providing a more intimate focus for those involved in it's construction, not to mention greater physical scope for aspects to be modelled. If it were to remain in a team workspace for the duration of a project, re-enforcement of the common goal, and team identity may be achieved.

The illustration of a time-line in the model would help the team to gauge at what point in the process we are situated, goals could be set and exit criteria relating to the Tuckman &Jensen stage model (or any other model used) could be defined and illustrated. More importantly, social barriers may be broken more quickly, accelerating the team towards the performance phase, giving extra time for the team to 'outperform' or do something exceptional.

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