

Syntegral Design: Group-based Creativity through Aesthetic Processes

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Abstract

An adapted version of Stafford Beer's model of *team syntegrity* was combined with four Aesthetic Processes (APs) (clay/sculpting, theatre improvisation/writing, painting/drawing and curatorial/found objects) to generate a process model of design that maximized group-based idea generation, idea sharing, and idea integration in a short period of time. This paper outlines some preliminary discoveries resulting from a three-day participatory Forum hosted by the Leadership Learning Lab at The Banff Centre in which four 'design pods', made up of leader developers, business managers, artists, and academics responded to a design challenge to create a new enterprise. Clay/Sculpting and Curatorial/found objects proved to be powerful methods for group-based idea generation and exploration compared to Painting/Drawing and Theatre/Writing. Participants also found this same pattern in terms of comfort with these two APs. The direct hand manipulation involved in these two APs affected how participants were able to share their ideas and to make collective sense of them. The value of using APs as an engine of design within a structured group-based approach is discussed.

Introduction and Background

At its basic nature, the activity of *design* is about having an idea and then bringing that idea to life through form and function in the real world. Design takes a subjective experience and through a *birthing process* makes it real. Design, broadly, is about creating a desirable or preferred world in contrast to the one at hand and so reflects human intention.

"Human intention, made visible and concrete through instrumentality of design, enables us to create conditions, or artefacts, that facilitate the unfolding of human potential through designed evolution in contrast to an evolution based on chance and necessity – a highly unpredictable process."¹

The value of a design approach (as opposed to a solely scientific, spiritual, artistic, technological, one) is that it begins with some subjective sense of wanting a change in current circumstances or conditions. Today, most of these circumstances or conditions are complex in nature. They are characterized by undifferentiated and ambiguous dynamics, indicators and outcomes. A design approach eschews the problem solving approach for a more creative and expansive one in that design works through a process of discernment and distinction culminating in a final artefact that fits into the complexity that spawned it.²

Two primary processes of design are focused on in this work. The first is that of *composition* which requires a focus on relationships and specifically on how elements or entities are brought together in relation to each other in time or space to form a systemic whole that serves some purpose or function.³ In this sense, the design process allows for conceptual and physical rearrangement of current elements based on an intention or purpose. Composing begins with a set of elements (conceptual and/or real) and 'plays' with these elements until a suitable arrangement is found. Suitability is determined by the intention or problem at hand. Out of a wide variety of possible compositions, a few are considered suitable and one is finally chosen.

The second design process is that of *judgment* which is best characterized by the act of decision-making without rules of logic.⁴ If design engenders composition as a primary process then the way to make decisions must be based on something other than logic-based rules because there are far too many possibilities to hold and consider within any compositional space. The faculty of human judgment however is a complex one. The judgment process may be just as easily based on intuition as it is on character, on values as it is on worldview, on life history as it is on spiritual experience.⁵ Regardless of the source of the judgment, the act of making judgements is critically linked to the process of composition as a key element of design.

Composition and judgement are two processes common also to the work of artists who, through music, painting, sculpting, dancing, film, etc. create works within an intentional space. These artistic or more broadly speaking, aesthetic processes refer to any activity or artefact that engages the senses - any activity or reaction to an object that elicits a sensual response. The aesthetic is a significantly different lens through which meaning emerges from our sensual territories.⁶ The aesthetic lens addresses embodied, emotional, sensual, symbolic elements of ourselves and our cultural environments⁷.

Aesthetic Processes (APs) are qualitative in nature, requiring description and a high degree of interpretation and judgement. Aesthetic knowledge is situated in the body. The aesthetic dynamic is present within all people and in all interactions between and among people - an integral part of existence whether it is used consciously or goes unnoticed below the surface. The aesthetic dynamic intuitively synthesizes impressions, nuance, vague impression and other fluidities into decisions, acts, structures, etc. often without rational or logical justification. Aesthetic knowledge is a distinct way to perceive, a way to produce meanings and realities.⁶

APs provide a means for studying both composition and judgment processes within an intentional space – to produce a result based on a challenge or desired end-state. However, the study of these kinds of processes is usually restricted to the individual artist or designer. The focus tends to be on the individual and how that individual designs or creates. However, design as a process, is often done in groups whether it is exercised formally or informally. One of the reasons teams have grown dramatically in the workplace is because of the synergy, or collaborative energy, that is created by tapping into the collective wisdom of team members. Consequently, the research on team creativity is developing at a rapid pace.^{8,9,10,11,12,13,14}

A well-structured group-based approach to innovation and planning was developed by Stafford Beer under the title ‘Team Syntegrity’ (TS)¹⁵. TS was designed specifically for a group of thirty people to engage creatively in a non-hierarchical fashion on any issue that was presented. The intention of Beer’s process was to rapidly bring ideas together to generate a creative outcome to a problem or issue as well as to build a group consciousness. A ‘syntegration’¹⁶ is a highly structured process that begins with a group of stakeholders who wish to address a set of issues. The stakeholders have diverse perspectives and experiences as well as potential solutions based on their own individual viewpoints. The purpose of a syntegration is to help this group of stakeholders consciously design that which does not yet exist. This could be a new organizational structure, a new governance system, a new product or a new physical design.

Within a syntegration individuals are members of different ‘teams’ that have chosen a specific perspective on the issue at hand – there are specifically 12 teams. A single individual will be part of two teams. People move back and forth in these teams so that, overall, ideas are dispersed readily and become available to all the teams. As work progresses in an iterative fashion the responses to the issue emerge in many forms but they all tend to be integrated because of the highly structured interaction protocols.

This work tests the basic elements of a design process that uses APs deliberately in a pared-down version of Beer’s TS model – Syntegral Design. Specifically, four APs were selected as the means by which participants engage with each other in their teams in response to a design challenge. Unlike Beer’s process which gets participants together but leaves the method of ‘interaction’ up to the teams themselves, Syntegral Design provides facilitated APs as the means of team interaction. The APs are used as the means of engagement. Although Syntegral Design has other components, only the relative value of APS for group-based design is reported here.

Method of Study

The AP component of Syntegral Design was tested during a Forum at The Banff Centre in February, 2006. This annual meeting brings together faculty facilitators, artists, business alumni, and academics for three days of exploration around a chosen topic. This year’s topic was *Leaders as Designers*. 16 participants and 8 aesthetic facilitators attended along with support staff and 2 Forum designers. The objective was to assess the value of four facilitated APs within a rotating team structure for addressing a specified design challenge.

The design challenge was given to the teams on the first evening and two thought leaders provided some initial concepts regarding the challenge. There was some time for discussion but this was informal. The design challenge was to:

“Design an Enterprise dedicated to developing 21st Century leadership – the leaders and the models of leadership required to create, with vibrancy, courage, and creativity, the cultural shifts necessary to meet the challenges of this new century.”

Four design pods (Red, Green, Yellow and Blue) were constructed so that each pod had one academic, one faculty facilitator, one artist and one business alumnus member. Four numbered pods were also created (1,2,3,4) so that each participant was a member of one numbered team and one coloured team.

The four chosen APs were previously selected. All AP sessions were restricted to one hour and ten minutes duration and centred on the activities provided by the facilitators. The facilitators assisted the teams to various extents in making connections between the AP activities and the challenge. The APs were:

- Painting and Drawing (PD) – activity based on a combination of water-colour painting and drawing;
- Clay and Sculpture (CS) – activity included the use of clay and other objects used to create physical renditions;
- Theatre and Writing (TW) – activity based on a combination of improvisation theatre and creative writing; and
- Curatorial and Found Objects (CFO) – activity based on discovering objects in outdoor and in door spaces and the contextualizing activity of a gallery curator.

The APs were done as a team for the most part. Although some of the facilitated activities started as individual work, often they were then combined with the work of others on the team. The clay work, for example had individuals moulding a representation of some element of the challenge but then the facilitator had them move around the table to shift or change another member’s work. In the painting AP the individual team members created their own images for a given instruction but these were then connected in a process outlined by the facilitator. For a more complete description of the four APs used in this study see Woodward and Funk.¹⁷

Each AP had its own dedicated space and two trained Aesthetic facilitators. The teams rotated through these spaces according to a timeline over two days. There were breaks and opportunities for informal discussion over meals and in the evenings. On the final morning the teams came together to present their findings.

The teams rotated based on the following schedule:

TEAMS	Mon am1	Mon am2	Mon pm1	Mon pm2	Tues am1	Tues am2	Tues pm1	Tues pm2
Red	CS		TW		PD		CFO	
Blue	TW		PD		CFO		CS	
Yellow	PD		CFO		CS		TW	
Green	CFO		CS		TW		PD	
One		CS		TW		PD		CFO
Two		TW		PD		CFO		CS
Three		PD		CFO		CS		TW
Four		CFO		CS		TW		PD

For example Red team had the Clay and Sculpture session, then Theatre and Writing, then Painting and Drawing and then Curatorial and Found Objects. Participants were rotated to reduce duplication of APs.

After each AP session there was 20 minutes to journal so each participant was able to record his/her reactions to the session. A workbook was provided for each participant for this purpose. The workbook contained open space to record ideas about the challenge for later use and about the AP just experienced itself. The workbook also contained specific questions pertaining to the session:

To what extent did this session.....

- 1Generate ideas for the challenge? A little...../...../...../...../.... A lot
 2Explore ideas for the challenge? A little...../...../...../..... A lot
 3Select ideas for the challenge? A little...../...../...../..... A lot
 4Change the group's thinking entirely about the challenge? A little...../...../...../..... A lot

To what extent did this session focus on the.....

- 5Physical component of the challenge A little...../...../...../..... A lot
 6Work component of the challenge A little...../...../...../..... A lot
 7Organizational component of the challenge A little...../...../...../..... A lot
 8Network component of the challenge A little...../...../...../..... A lot
 9General ideas about the challenge A little...../...../...../..... A lot

From your interactions with participants in the group what was....

- 10Their degree of personal engagement in the process? Marginal...../...../...../..... Total
 11Their degree of comfort with the process? Little I...../...../...../..... Total
 12 The overall value of the session in furthering work on the challenge to them Little/...../...../..... Total

The first set of questions (Q1-Q4) focused on what type of creative activities the session allowed the participant to do. The session could *generate* ideas, *explore* ideas in more detail, *select* ideas or to *change* the ideas of the group entirely. A single session could do any or all of the activities. The second set of questions (Q5-Q9) focused on specific elements of the challenge – the physical design, the work activities, how the solution was structured organizationally and how it was networked, or simply general ideas about the challenge. The final set of questions (Q10-Q12) was about the AP itself and the overall value of the session to the challenge.

Finally, each session was video-taped. The teams spent time on the final evening and early the next morning to arrange their presentations. The teams presented their results in an integrative session at the end of the final morning.

Results

Although a number of other results obtained, only those concerning the relative value of the APs as group-based design processes are presented here. The effect of the sequencing of the APs will be reported in a subsequent paper. The main question in this component of the research was to identify the perceived value of the APs for addressing the challenge. Also, given that this was the first test of the Syntegral Design process, the researchers wanted to capture any anecdotes and observations that might lead to insights and further development of the Design process.

Based on the individual participant ratings, averages for each of the questions were generated and simple t-tests for repeated measures were used to determine if the averages were significantly different (significance at .05 level indicated by greyed cells). The following table of significance was generated:

APs	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
PD/CFO	0.01 ^a	0 ^e	0.002 ^j	0.166	0.236	0.084	0.883	0.991	0.385	0.126	0.001 ^q	0.053
TW/CFO	0.008 ^b	0.006 ^f	0.077	0.961	0.452	0.491	0.092	0.191	0.339	0.498	0.003 ^r	0.543
CS/CFO	0.76	0.681	0.674	0.344	0.442	0.688	0.061	0.081	0.163	0.889	0.524	0.965
PD/TW	0.811	0.342	0.171	0.174	0.704	0.25	0.08	0.176	0.922	0.371	0.679	0.199
PD/CS	0.034 ^c	0.001 ^g	0.021 ^k	0.031 ^l	0.048 ^m	0.02 ⁿ	0.054	0.071	0.014 ^o	0.079	0.014 ^s	0.05 ^u
TW/CS	0.026 ^d	0.009 ^h	0.252	0.316	0.134	0.227	0.813	0.635	0.011 ^p	0.38	0.032 ^t	0.518

Participants rated Clay and Sculpture (CS) and Curatorial and Found Objects(CFO) significantly more likely to generate (Q1)^{a,b,c,d} and explore (Q2)^{e,f,g,h} ideas about the challenge than Painting and Drawing (PD) and Theatre and Writing (TW). As well, participants found that CS and CFO were no different in their ability to generate and explore ideas about the challenge and that PD and TW were also no different in their ability to generate and explore ideas about the challenge. As well, CS and CFO were rated significantly higher than PD on the ability to select (Q3)^{i,k} ideas about the challenge. Only CS was significantly better than PD for changing (Q4)^l the groups ideas about the challenge.

For the most part all APs were about equal in their ability to focus on all content elements of the challenge (Q5-Q9) except that CS was significantly better at assisting the group in working on the physical component (Q5)^m and the work component (Q6)ⁿ of the challenge than PD. CS was also rated significantly better than both PD and TW on generated ideas about the challenge^{o,p}.

With respect to degree of comfort with the process (Q11), participants rated CS and CFO significantly higher than PD^{q,s} and TW^{r,t}.

Despite these significant scores all of the APs were rated about equally on their overall value (Q12) with only CS being rated significantly higher compared to PD^u.

The challenge itself was left open as to what the enterprise would look like on a number of fronts: its organizational structure, its location in the world, its spirit and connection with other like centres. The two APs that provided a high degree of hand manipulation as a primary activity provided a superior means for generating and exploring ideas about this design challenge. Participants seemed to use the clay experience and the found objects experience to render ideas more real. The other two APs (P/D and T/W) did not provide the same opportunities. Painting and Drawing activities are less manipulable in the sense that once paint or pencil is applied to paper, there is less possibility of re-arrangement – the paint or the pencil leaves a more permanent artefact - likewise with writing. The improvisational activities in the theatre AP were based on movement and quick dialogue so too, were not as easily ‘viewed’ in a static position with an opportunity then to consider and rearrange. With respect to composition, CS and CFO provided a more powerful means of arranging and rearranging ‘artefacts than did T/W and P/D.

Typical of participant’s reactions were statements like “the clay spoke to me” and “it (the clay) made me slow my mouth down so I could think and talk”. These types of statements suggest an effect on inner psychological dynamics and thought processes. Hand movements with physical objects that represent ideas may “slow looking down”¹⁸ or at least slow the thought processes down in a personally discernable manner. In this sense they may affect the judgment process of design although this is not directly verifiable. In any event, participants found the CS and CFO APs to be highly engaging for generating and exploring ideas.

Another way to think about CS and CFO is to see them as providing the means for creating intermediate models. This type of ‘hands-on’ idea manipulation allows a group of people to generate and explore ideas in terms of physical representations that have meaning only to the group. As a group talks and ideas emerge, these thoughts are rendered in clay or in a familiar object in a representational manner for further discussion and thought by the group. As more and more ideas emerge, the representations are manipulated to express the new ideas. These intermediate models provide a direct, objective, physical means of working with ideas to ensure that all group members have the same or very similar meaning – the basis of collaborative appreciation. The other two APs, P/D and T/W by their nature, make it more difficult to generate such intermediate models.

Finally, it could be that CS and CFO used more familiar objects to most participants. Clay is a ‘forgiving’ medium in that mistakes can be quickly altered and the physical touch is soothing and the material has a ‘common feel’ to it. CFO activity utilizes objects found indoors and outdoors and will also be quite familiar. This familiarity is less forthcoming with PD and TW which tend to hold some past associations and mixed feelings. Improv is theatre and requires trust and psychological safety. Also, for those who remember with little fondness their art classes in early school may carry with them these memories into adulthood. This may explain the significant differences participants generated on the comfort questions (Q10-Q12).

Conclusions

The variety of APs chosen for this study was deliberate to test the viability of each for design work in groups. What was not reported was the effect of the facilitator on the reactions of the participants. This analysis will come in a later paper with further in-depth analysis. The CS and CFO facilitators were veterans at the use of APs for exploring ideas. The facilitators for the PD and the TW were facilitators who used artistic processes to ‘train’ others in skills and competencies using their art form as a means to do so.

Based on this difference of facilitator approach both PD and TW could be re-configured to operate more as generative and exploratory methods. For instance the use of 'physical sculpting'¹⁹ in the TW sessions would provide a means of using the other people in the pod as 'intelligent clay' in that the people could be used as the intermediate models. In this way there is more likelihood of providing a basis for the *compositional* component of design. As well, PD could provide a means for exploring certain selected elements of a design challenge, say the broader values and principles through the symbolic work of painting.

This paper reported the results of using four APs as the primary means of group-based design within a modified syntegration process. More experimentation with APs is required to hone their use and relevance but as the main 'engine' of a structured, group-based design process the approach appears promising. As well, work needs to be done to make Syntegral Design a fully fledged design process. This work will require the development and design of processes considered as up-front and back-end processes around the engine of APs.

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