GROPIUS, THE BAUHAUS, AND THE COLLABORATIVE CRITIQUE

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Walter Gropius and Collaboration at the Bauhaus

While much attention has been paid to the design products of the Bauhaus and their continuing influence on practice and pedagogy, it is also instructive to explore collaborative design as advocated by Walter Gropius at the Bauhaus in Weimar and Dessau between 1919 and 1928, at the HGSD, after 1937, and in his practice at TAC, until his death in 1969, in Cambridge. Several issues are of interest. Gropius advocated interdisciplinary collaboration for the development of complex projects, implying the enhancement of quality due to a Gestalt affect among the team. "Synchronizing all individual efforts the team can raise its integrated work to higher potentials than is represented by the sum of the work of just so many individuals" (1943, 80). Regarding authorship, he resisted stylistic labeling, yet described the importance of a master *motif*. "The task grows gradually above the individual, who finally hardly remembers who initiated this or that part of the idea, as all their thoughts resulted from mutual stimulation" (1943, 80). Architecture, as an area of professional study, was provided at the Bauhaus only after 1927, under Hannes Meyer; therefore Gropius's ideas about collaboration focused on graphic arts and product design during the preceding eight years.

Gropius addressed conditions of association, leadership, and communication for collaboration. "The *conditio sine qua non* of true teamwork is voluntaryism; it cannot be established by command. Individual talent will assert itself quickly in such a group and will profit for its part from the cross-fertilization of minds in the give and take of daily contact" (1943, 79). "True leadership can emerge when all members have a chance to become leaders by performance, not by appointment. Leadership does not depend on innate talent only, but very much on one's intensity of conviction and devotion to serve" (1943, 79). "I discovered that it was first of all imperative that every participant of the team must tell the other members right from the start what he is thinking and doing in a continuous mutual exchange" (1943, 80).

The Study of Design Collaboration

The impetus to conduct this study was to better understand the experience of students in community-based, collaborative learning situations. Figure 1 illustrates the relationships studied as well as the related learning stimuli.

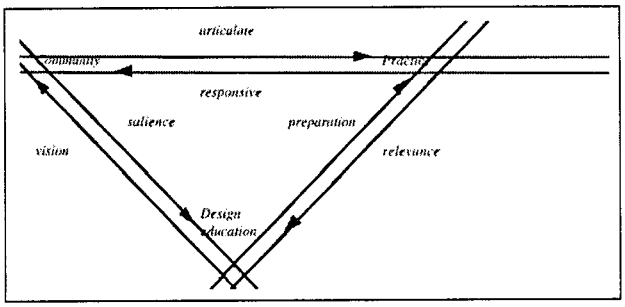

Fig. 1. Design Collaboration and Learning Stimuli.

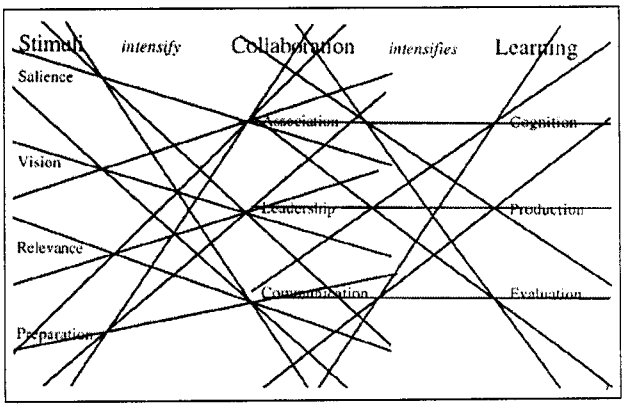

Fig. 2. Stimuli, Collaboration, and Learning.

Secondarily, the study was an opportunity to explore the Bauhaus philosophy and pedagogy related to design collaboration. To these ends, theories of education and of cognitive learning were assembled to describe learning design collaboration. Student perceptions of their learning experience were then gathered in focus groups, and were analyzed qualitatively for concepts, tendencies, and trends. Student statements revealed that, in collaborative design, adult learning assumptions and teaching design are appropriate in terms of project responsibility and the shared management of the learning process.

Figure 2 summarizes how the learning stimuli intensify collaboration conditions which, in turn, intensify learning. The principle findings of this study generally confirm Gropius's conditions for collaboration and provide a description of a critical ideation process that may be called a collaborative critique.

from Competitive	through Compromise	to Collaborativedesign
individual ideas	bargain	critical ideation
protective	give up ideas in order to gain	sagacity: se(iz)e opportunities in work of others; value the whole effort

Fig. 3. The Emerging Collaborative Critique.

The Collaborative Critique

A collaborative critique evolves during the course of activity of groups of students as they shift from the protective behavior of individual competition, through bargaining away ideas in compromise behavior, to critical ideation and the constructive behavior of the collaborative critique (see Figure 3). There is apparently a shift from closed, individually protective, to openly critiqued communications during the course of collaborative studios. The students' initial reticence to share ideas with each other may be seen as a carryover from their previous experience in individually competitive studios. The students begin to be more open when they see the practical advantages of getting the group project done. Students also recognize the academic need to be represented in the group effort. Once engaged, students enter a negotiation phase that is initially seen as compromise, giving something up in the bargaining to have something incorporated in the design proposal. With some experience in group work, the conversation changes again. They report discovering similarity among individual efforts. What students refer to as brainstorming turns out not to be judgment-free, but an exercise that has evolved into critical ideation where ideas are generated and immediately evaluated as to purpose, suitability, and consistency with project objectives. It is in this activity that students pay critical attention to the work of team members. Sagacity is at work as they seek opportunities for their ideas in the group effort. Students find increasing value in the work of cohorts, an they shift from looking for competitive advantage to the critical tempering of shared ideas.

The shared vision negotiation process, in a developed state as experienced by a few teams, may be thought of as a collaborative critique. While compromise may be regressive, reaching a lowest common denominator, or even mush, the collaborative critique may be seen as building, aggregating, and as a tempering process that involves the open ongoing critique of the propositions before the students. Negotiation becomes a positive word. Sagacity is at work as students pay attention to and search for opportunities in what others are doing. Students begin to understand the practical and conceptual advantages of sharing. They begin seeing value in others, and shift from a protective stance of competition, to a sharing negotiation of compromise, to an open critical ideation and integration process of a collaborative critique. These shifts in cognitive behavior are often described as the heart of the educative process.

Implications for Design Education

Collaboration empowers students through critical reflection, providing an emancipating learning situation in preparation for professional design practice. Collaborative design, when successful, presents the opportunity for students to take different roles in anticipation of becoming responsive practitioners. They find that it is easier when they are not alone, when there are other designers, and someone for whom to design. Collaboration helps learning in all these areas as well as in their application in studio.

This study concerns the effects of collaboration on learning. An emphasis of the investigation has been on the context in which a person's mind learns. The activity of learning has been enriched by being in a socio-physical context in which students can participate in the social construction of knowledge, thus enhancing the process of developing knowledge, decision making, and design. If we learn more often in social groups than as individuals, it is valuable to broaden the learning environment to include other players. Learning, as cognition, production, and evaluation, is at least easier when educators use external factors: students then know more clearly why and for whom they are designing.

Cognition

Delving back into experience is affected by broadening the experiential background, and relations to it, through involving more students. As Jane Abercrombie also found, teamwork energizes the dialog as the conversation builds from one participant to another (Nias, 1993). Students perceived that it is easier if you are not alone and answering to narrow authority. Presence of other designers (minds), and someone to do it for, enhances the learning activity. Similarly, the return of a discourse about "cultural studies" in design schools is an indication of rediscovery of the social purposes of design.

Production

Hypothesizing, reasoning, imagining, and representing are affected by enlarging the normal/abnormal discourse by going beyond normal educator/student interaction to the multiple minds at work in collaborative design (Kuhn, 1977; Bruffee, 1984). The answer is not just in yourself; it is also out there in the environment, in the materials of construction, in historical precedent, in the socially derived parameters of codes and regulations, in the lives and experiences of others, as well. Students learn to be integrators, and critics become consultants.

Rather than the vertical transmission of knowledge to novices, a tradition in design schools described by Schon (1987), a more horizontal version of the discourse operates in a collaborative search for knowledge where

the imaginations of novices can gain and challenge the knowledge base and norms of the profession (Kuhn, 1977). As Bruffee described, students and educators respect the professional knowledge base, and collaboratively bring other people along within it (1984).

Evaluation

In a collaborative studio, authority for the work is shared and individual. Responsibility and evaluation of appropriateness of proposals shifts quickly to the community-client from the educator. There is an apparent, initial tendency to simply give communities-clients what they want. While this may be due to intimidation in the face of reality, inexperience, and insecurity in their knowledge, students learn to expand the range of possibilities open to the community-client, share knowledge of design processes and products, and develop the confidence to bring others into the design process (Sanoff, 1982). Engaging others is hard to do if you are trained to believe that you are the sole source of authority. A learning objective, therefore, is to develop the confidence to manage the design process so as to engage other students, community-client representatives, and practitioners. Another objective is to develop the capacity to share and apply professional expertise and knowledge in local environments.

Concerning evaluation, or testing hypothetical propositions against experience, there is a constant critique and tempering of propositions as the team works. Important to enabling students to develop these capacities is through sharing control. Giving the students freedom is an act of transferring/sharing power in the studio. Arnold Tannenbaum suggested that the overall amount of control in a situation increases when the control hierarchy is leveled and each participant has responsibility over some portion of the project (1966). This phenomenon appeared in several teams when educators entrusted freedom and transferred control to the students.

Association, Leadership, and Communication for Learning Collaborative Design

Students organize themselves into teams in diverse communication and interaction practices based, as suggested by A. Paul Hare on personalities and previous experience with each other (1962). It is best to let this happen on its own, let the social dynamic happen as they find their common goals, norms, and roles, unless it is obviously abusive or damaging to team members. By giving students this freedom, educators are passing authority over to them. If demands are clear and consistent, students will organize themselves to do the job.

A mix of collaborative and individual projects throughout the academic program or course serves to develop individual competence as well as ability/appreciation/enjoyment of team work. At Harvard, Gropius introduced his students "besides their individual training, to the experience of working in teams. Now they had to learn to collaborate without losing their identity" (1943, 78). Students working in teams may complete whole projects, not just the early investigative phases, as it is important to work through the dynamics of negotiating formal as well as functional aspects of the problem. Equality and mutual respect among collaborators encourages the creative urges of novices and enhances the chances that these urges will be picked up and developed by the more experienced (Gordon, 1961). Shared authority structures also share authorship in collaborative design projects.

Individual creativity in form making should only be enhanced by the tempering it receives in a collaborative situation. Individual excellence is recognized by a truly collaborating group, one that does not suffer from lingering competitiveness. As Robert Slavin suggests, if educators do not reward some students at a cost to others, as happens in competitive studios, but reward the contributions of individuals to the group effort, without quota, the creative atmosphere in the studio can flourish (1980).

Conclusions

"The sort of collaboration we aimed at was not simply a matter of pooling knowledge and talents. Our ideal was that what each collaborator contributed to the common task should be something he had devised as well as wrought himself" (Gropius, 1965, 79). The different strengths of collaborating students are reinforced in a studio where they work and share with each other. Level heads around the table facilitates democratic attention to imagination and experience. The creative efforts of novices gain the attention of the more experienced participants, allowing them to play off of each other, thus tempering the design idea. By changing the social context in which architecture students learn, from a competitive and individual setting to one of collaboration, teaching methods change from educator authority to team autonomy as the focus shifts to a sense of responsibility to the community, the project, and team members.

Educators who understand that they are working with students who are developmentally adults, most of the time, would benefit from understanding the different developmental assumptions and learning designs appropriate to teaching adults rather than children (Knowles, 1984). Sharing in the management of the learning experience would be a place to begin, such as collaboration between students and educators about needs assessment, goals and expectations, and evaluations. Students already engage in the diverse demands of adult society and of the economy, often in a collaborative manner, and it is time to help students prepare to do so in their professional lives as well.

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