# Designing a System for Design Learning: Designers and/or Learners?

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## 1. Introduction

In the third volume of this series, I addressed the question, "What does a system for design learning mean to me?" (Collen, 1994). The purpose of this chapter is to continue this direction of personal inquiry by further thoughts upon and extension of select aspects of my previous statement, and in the process articulate the important relation between designer and learner.

The direction of inquiry I took with the initial question was to emphasize the learning process and the critical characteristics of the learner's process of learning design. I described design learning as one kind of learning and a system for design learning as one form of education. I stated several generic characteristics of a system for design learning. They can be identified in relation to a process for design of design learning. Finally, the paper made reference to designs of systems for design learning which bear importantly on the future of education (Collen, 1994).

However, these aspects are the more visible ones to the designer. What is not readily apparent, but equally important, are those aspects

of a system for design learning that tend to remain invisible throughout the process of designing and learning. These invisibilities are typically held as presumptions and assumptions about the process and those who contribute to it.

## 2. First Assumption to a Fault

The designer presumes to have what the learner lacks in the knowledge, experience, and practice of design. This realization gives meaning to what is meant by designer. It brings social purpose to those who identify professionally with doing design. Disadvantageously, this is a rather presumptuous position to hold in reference to learners, because adopting this position can readily exclude from the consciousness of the designer the potential role the learner may play in design.

To complicate matters, the learner may presume to have what the designer lacks in these areas as well. The learner commonly holds the belief that the systems to learn are created by others other than the persons who are to use them. The designer is viewed by the learner not only as the designer believes, the expert in design of which the learner lacks, but also as the naive learner for which expert learners should advise. When horns lock between designers and learners, the former exploits the latter to test out the products of design, and the latter scoffs at the former for generating inept, inefficient, and wasteful learning systems. It seems that we leave it to the adult, perhaps mid-career learner, who begins to question the designer versus learner assumption and engage in creating a learning system to serve his/her own professional needs.

Thus, both designers and learners have established a stabilized co-dependent value/belief system which reinforces the other's view of self. I contend that this system poses a major barrier to the creation of productive learner-oriented systems for design learning, and perhaps other types of learning systems as well.

## 3. The Place of the Learner

If we are to transcend constructively the traditional co-dependency between designer and learner, then what is the place of the learner in the design of a system for design learning? Without some knowledge and appreciation of the interests of those human beings comprising the

human activity learning system, the designer is faced with a severe limitation. The learner is not just one destined to occupy the system for design learning, but he/she is also one who needs to be integrally involved in the process of designing it.

Unfortunately, the prevailing attitude still seems to be that the designer can design the system without the involvement of those who are to comprise and use it, and that using the learners to test the success of the design is considered sufficient feedback to engage in the process of design. This prevailing view is a non systemic perspective often posing and professing to be a systemic one.

In contrast to the prevailing view, I believe the place of the learner in design is that of stockholder as well as participant, invested and active, respectively, in creating the very learning system tailored to enable him/her to learn design, while simultaneously engaged in the process itself of that which is to be achieved. This cybernetic, self-organizing, self-referential, reflexive, and human-oriented process will become more evident as this chapter on design learning unfolds. For to be a useful, purposive, and effective system, it has become increasingly obvious to many systemists that the process of design of a learning system must work with the learner's desires, prior learnings, strengths, and limitations to attain designer behaviors, skills, and competencies. We may profess a familiarity and an affinity with this perspective; but also, we seem rarely to acknowledge its essential place, then follow through in practice.

## 4. The Time of the Learner and Designer

The time of learning begins from the initiation of the process of design, and it continues through the designing into the future of the system for design learning as envisioned by its learners. The designer joins the learners in the arrow of time. I prefer to consider the designer as a learner and the learners as designers. The resultant human activity system formed is comprised of co-designers and co-learners engaged in the process of design in order to create a system for design learning.

The process in which they engage can be construed as moments of an infinite series (Tuan, 1978). Each moment has its place, expressed in congregation of purpose and action, and each moment can establish a historical point of significance in the process of designing the system and learning design. Both the linear and circular perceptions of time

become relevant. Not only does the group develop its own unique history; but also, it returns in its process to review, reflect upon, and examine what has occurred before, and in so doing moves its process to ever broader and deeper inquiry. The spiral seashell in cross-section may show us a two-dimensional Cartesian plot of the process. But the intact shell, as we hold it up to the light between our thumb and forefinger, may stimulate our comprehension more fully to grasp the process in terms of a three dimensional portrayal.

## 5. The Place of the Designer

Though the expertise of the designer may place him/her one step in knowledge, experience, and practice ahead of the learner as designer, the designer has the place of responsibly leading the co-designers from novice to expert in designing to design. Similarly, the expertise of the learner may place him/her one step in knowledge, experience, and practice ahead of the designer as learner, but the learner has the place of responsibly leading the co-learners from novice to expert in learning to learn.

The co-operative venture of learners and designers in the process of designing the system creates the place (space and arena) where boundaries melt between them. They are brought together in a common quest. The designer-learner distinction is transcended to the more important apprehension of each member of the human activity system for what he/she can contribute to the pursuit. The resulting group coalescence can mean a synergy in which idiosyncracy and commonality bring a vibrant dynamic to the process of design learning.

Though time it takes to manifest, I surmise this dialectic-like tension is indigenous and necessary to the progressive spiral of the process. The place of the designer soon becomes that of learner, and conversely, in the process of design learning.

## 6. Valuing the Learner

Airs of self-aggrandizing expertise must be put aside in favor of more important values of the human being as a potentially adaptive, creative, contributive, and cooperative member of a learning community. Rather, better it is to design a system for design learning which

brings out and sustains the most favorable qualities of humanness toward learning about design.

Compounding egotistical aims, pervasive presumptuousness dooms to failure most efforts to engage in design. These derailments often leave the well established process of design to designers and the process of learning to the consumers of a system for design learning called pupils and students. A design process which separates the designer and the learner in my opinion is not a systemic approach to the challenge.

In short, the underlying value/belief system of the designer and learner are key. As co-designers and co-learners, core values must be discussed, weighed, and agreed upon early in the design process to ensure the development of a system for design learning in which its members can ascribe. Otherwise, the risk is high that the designer working too much in solo, too divorced from the system under creation, will produce a set of goods attracting merely a fadish curiosity among learners.

## 7. A Shift in Value and Ethical Imperative for the Next Century

There is a caution which stems from continued domination of systems for design learning designed solely by designers. To the extent that designers continue to be employed to design for others, designer-created systems can become just another consumer product, just another commody for a materialistic society. We may expect a paucity of critical reflection regarding the value, benefit, and consequence of the system in relation to its impact on humans and the environment. Witness the design process applied to many current consumer goods accompanied by growing concerns about wasteful litestyles and environmental degradations. Do we want merely more of the same?

The designer has responsibility for the design and guidance of the systems which he/she creates, even though these responsibilities seem to be passed with predictable regularity to others with the blueprints of production. But when designers must be on the receiving end of their products of design, the perspective can shift dramatically.

Human activity learning systems of designer-learners tend to work more responsibly when the participants in the process are both the creators and the consumers of that which is under design and redesign, because they learn from the process that they are impacted, for better or worse, by the consequences of their actions. Furthermore, aversive

consequences of their actions on others bring aversive consequences to them. Beneficial actions bring supportive and nurturant reactions. Of course, in reality the process involves a mix of both, thus requiring careful discernment and judgement throughout the design process. In general, it is in their interests to remain sensitive to the socially pragmatic aspects of designing[2].

## 8. Second Assumption to a Fault

The focus of learning is commonly viewed in terms of product or end result. We often hear, "But what is to be learned?" The "what" translates into the "it" and the its to be learned in the typical curriculum are terms, facts, concepts, and principles. The objectification of learning to parrot static structural entities is such an entrenched approach to curriculum design that the assumption goes unquestioned. This viewpoint is further reinforced by the use of the learning objectives approach followed by structuring of learning activities to fulfil the stated objectives. Performance measures periodically assess the pupil's progress toward fulfilment of the objectives. A final performance test confirms that the learner possesses the entities to be acquired.

We could continue to approach the design of a system for design learning in the traditional fashion. Let us arrive at some agreement regarding the terms, facts, concepts, and principles that the designer need possess to engage in design. To make the task even more convincing, let us include in our agreement a set of skills designers use in their design work. Whether in solo or as a group, let us design a curriculum to enable learners to become designers. And let us examine the learners along the way to assess their progress of acquisition. Once completed and operational, we may conclude with satisfaction that we have a system for design learning in place.

However, to proceed in the traditional fashion is to assume design learning is an object, perhaps much like we might think of a rock, a tree, or a chair. It is not the thing, but the means to produce it that I believe is at the heart of the system. The center of designing a system for design learning is the human activity system engaged in the process of becoming rather that a thing sought after to be had.

The position I take is not to overthrow or replace the objectification of learning, even though it may well persist as a domineering assumption of many designers of learning systems. I prefer to situate this as-

sumption within a larger field of consideration, a field comprised of a set of assumptions that focus more on the individual learner/designer in interaction with other learner/designers engaged in designing *their* system for design learning. The process of design becomes more self-organizing (Jantsch, 1980) and self-reflective (von Foerster, 1981). The learner/designer group would become more self-consicious of who they are, what they are doing, the manner in which they are doing, and so on.

Since we are reared with the traditional assumption, I expect a shift in emphasis needs to occur, whereby the objects of learning serve more as its reflections to document the process of learning, instead of its end products. Designing becomes metalearning/metadesigning, that is, learning to learn and designing to design (Table 1). Learning and designing are reduced no longer to extrinsic-like objects of possession to be acquired in cognitive, normative, intrinsic-like manifestions of knowing. In this case, the boundary between process and product looses its meaning. Process and product become one movement leaving center highway markers, the footprints left behind — a valuable resource trail of the human activity learning system in motion from which the learners/designers can increasingly benefit.

To reformulate, a system for design learning can be defined as a means of metadesigning. It also becomes evident that metadesigning is intertwined with metalearning and metainquiring, like three strands of a DNA-like helix. As the spiral unfolds in the designing process, further shifts in thinking occur. More fundamental forms of learning, designing, and inquiring generate higher order derivatives of the process for those engaged in design learning to discover and appreciate.

## 9. From Design to Metadesign

There are two implications from this reformulation which I wish to highlight. First, the design system is a human activity system that exists for the human beings who comprise it. Second, the system is one of a family of possible systems which we can classify as systems for design learning.

Consequently, each group of persons forming such a system does so to serve their interests in learning about design. The form in which the process takes place stems from that group. As the process unfolds, more attention can be given to reflecting upon the process itself. Fur-

ther, this self-reflection suggests a metamethodology of design inquiry, or a common hierarchy to the process of designing systems engaged in design learning.

Table 1

A process hierarchy of human learning, designing, and inquiring.

| LEARN | DESIGN | INQUIRE |
|---|---|---|
| Objects to learn | Objects to design | Methods to inquire |
| *Learning* Object and process to learn | *Designing* Objects and process to design | *Inquiring* Methodology to inquire |
| *Metalearning* Learning about objects and process to learn Metalearn | *Metadesigning* Designing about objects and process to design Metadesign | *Metainquiring* Inquiring about method and methodology to inquire Metamethodology |
| Learning to learn | Designing to design | Inquiring to inquire |
| Learning to learn to learn | Designing to design to design | Inquiring to inquire to inquire |

## 10. Designing: A Design Process Hierarchy

Although the notion of hierarchy is often used to fix and stratify phenomena, lending a static and permanent quality to the declarations of those doing it, there is a dynamic application of hierarchy to inform one of the general flow or direction to the development, transformation, and evolution of a process. In this case, the process is design learning. It can be conceptualized as the coherent flow through phases of a general process of an evolving emergent hierarchy of design learning.

From the terms, facts, concepts, and principles we work with in design learning, an integration emerges of theory, knowledge, experience, and practice. The process of design learning proceeds as a general learn-

ing process from learning, to learning about learning, to learning to learn, and so on, a process limited only by the constraints of the system and its contexts. Learning to design as an object becomes designing to design, which later becomes designing the process of design. All three strands of the triad, presented in Table 1, are interwined in the development and evolution of a system for design learning.

## 11. Openness

The placement of the emphasis on the learner/designers and the designing process considered here *opens* the human activity system for design learning to much novelty, innovation, and discovery. These characteristics of the system are in marked contrast to traditional learning systems preoccupied with set objectives and controlled learning activites tied to them. The consideration of openness in designing a system for design learning is compatible with related articulations of openness in human activity systems (Collen and Minati, 1993).

Further, it is noteworthy that the openness-boundary concept of General Systems Theory (von Bertalanffy, 1968) can assist our own learning of the unfolding of the design process hierarchy (Table 1) as we participate reflexively in design learning and inquiry.

## 12. Derivative Cybernetics

First and second order cybernetic loops may be helpful to describe the derivation and evolution of the design process hierarchy as the spiral unfolds. A human activity system can observe and reflect back upon its own actions (von Foerster, 1981). Self corrective and self-reflective aspects of a human activity system are critical qualities of a vital designer-learner centered system for design learning. Characteristics and processes stressed here are endemic to human group oriented inquiry systems, such as those human activity systems typically conceptualized in terms of oversimplified dichotomous interactions between interviewer and interviewee, field researcher and community, therapist and family, and consultant and corporation. However, these sets of interactions, articulated in terms of first and second order cybernetic loops, may as an aggregation produce movement of the inquiry system, which may be described in terms of a third order cybernetics. Each cybernetic order is a derivative and emergent property of its progenitors.

Reflexivity is being recognized as of paramount importance to various human systems (Steier, 1991). It may be difficult to acknowledge, study, and include designerly thinking into our reflexivity while designing a system for design learning, until the more advanced stages of design/learning processes. Perhaps, adult learners are better equipped to reflect upon their own process. However, these statements pose intriguing questions for critique.

## 13. Toward Integration: Metadesigning

The process of design brings together the designer with those who are to learn about design, the subject matter of design, and the process of designing. The integration of these four components into a system for design learning is one expression of the theme of this chapter. Without such integration, there is little integrity to designing; it remains largely a fragmented nonsystemic activity. The primacy of coalescence of components to the process of designing a system for design learning leads one to favor group and process oriented forms of inquiry, such as action research (Whyte, 1991), Systems Design Journey (Banathy, 1991), and Soft Systems Methodology (Chackland and Scholes, 1990).

Where the designer's system is essentially a conceptual system, the system for design learning is a human activity system (Checkland, 1981). Given the central priority of the learning of the learner, it seems only natural to seek means to foster the design of learning systems which maintain this priority. Social action and systems research methods of inquiry appear to me best suited to this endeavor.

## 14. Conclusion

The work of the designer of a human activity system for design learning does not become divorced from the system being designed. The designer in his/her specialized role is a learner who interacts with other learners, novice designers in the process of becoming more expert in design. Collectively they form a learning system whose purpose is to engage in designing a system for design learning. Their initial task is to coalesce as a self-organizing group, acknowledge this fact, and carry out a social group process to design themselves into a system for designing a system for design learning. The initial phase of the process is often referred to as getting ready for design; yet, ironically and para-

doxically, the very engagement in this phase has already brought them into the arena to which they aspire. However, to integrate and synergize their talents in spiral orchestration toward design competence presents a formidable as well as an inspiring challenge.

Finally, engagement in designing a system for design learning provides several concepts useful to a designer-learner's personal inquiry into design learning.

## Notes

1. Developed from a paper, originally titled "Further Thoughts on a System for Design Learning" (1991), for the Third Research Conference on Comprehensive Systems Design of Education, Pacific Grove, California.
2. I associate this form of pragmatism with an emergent ethical imperative directed toward the necessity of addressing the emergent global human community, in which values associated with a better and sustainable life must be coupled appropriately with those which ensure fit within the natural context (Collen, 1992).

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