Designing Communities of Learning:
Program Guidebook

The Mary Parker Follett Foundation, Inc.

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Designing Communities of Learning

A demonstration of the need for and power of participatory,
idealized re-design of public education in a community context.

I Summary of Program

1. Description

Designing Communities of Learning is a practical demonstration of a dramatically different approach to the change of systems of public education. In this demonstration project, 90 to 120 diverse residents of the community will design a mythical school district for their community without regard to the assumptions, structure, and operations of the existing system. They will utilize a disciplined and creative process called Participatory Idealized Design that helps them transcend their existing image of education.

2. Objectives:

1. To demonstrate the usefulness and effectiveness of participatory, idealized design toward the positive transformation of public education.
2. To produce ideas and directions for positive change in the existing school district.
3. To produce inspiration and impetus toward the full community undertaking the journey of designing their system of public education.
4. To foster design literacy and design competence across the community, to enhance citizen interest, participation, and empowerment in working with institutions that are publicly owned.

3. Core Assumptions:

1. If a community today had to design a system of learning and human development (public education system) completely from scratch, it would not look like what we have today.
2. The only way to know if the present system is the best possible is to design the ideal and then look at the present system in light of that ideal.
3. Only the users of a system have the right to design that system.

II Background

1. Program History

The development of Designing Communities of Learning began in 1997 as a project of the Idaho Systems Institute, which later became the Mary Parker Follett Foundation. The project was inspired by the mission of the International Systems Institute and its founder Bela H. Banathy. Dr. Banathy is the former senior research director at the Far West Lab for Educational Research and Development, and Professor Emeritus of Systems and Design Sciences at the Saybrook Graduate School.

After decades of work in education and consideration for the greater social context of learning and human development, Banathy concluded that no amount of incremental restructuring and improvement could effectively re-connect our systems of public education with the realities of a rapidly changing world and the aspirations of the people affected by those systems. The so-called "crisis in education" was really a "crisis of perception" that would never be solved by focusing on improving education from within. In order to create meaningful transformation, he suggested, the "stakeholders" of the system would need to move beyond the existing image of education, envision their ideal, and then transform their system in light of that ideal.

These ideas are best presented in his 1991 work Systems Design of Education and his 1996 book Designing Social Systems in a Changing World. The approach that Banathy advocated is generally called the *idealized design of social systems*. To emphasize its democratic nature, we call it *Participatory Idealized Design*. An overview of this approach is described below.

2. Participatory Idealized Design

Participatory Idealized Design is a philosophy and an approach to the way that organizations and institutions are created and function. Its basic premise is that there must be a living connection between the core values and core ideas of the users of an institution or system, the realities of the community and its larger societal context, and the structure, functions, and life of the system. The approach is *ideals based* because the very purpose and activity of the institution should be to help people reach toward what they feel is a "good life" for themselves and their community. Without such a guiding vision, the institution becomes reactive and can take on a life of its own that is divorced from those it serves.

In addition to being ideals-based, Participatory Idealized Design is inherently *democratic*. It insists that no one can design a system for someone else. Unlike in the traditional model, the role of experts here is not as designers themselves, but to provide knowledge and experience that can be used by stakeholders to achieve their goals.

Participatory Idealized Design is also inherently *creative*. It thrives upon the capacity of ordinary people to work together to develop innovative solutions to challenges. It is also *disciplined*. It has a clear structure and process whose integrity is maintained in order to maximize the capacity for the "user-designers" to actually achieve what they are seeking, and with the greatest effectiveness and efficiency possible.

Finally, Participatory Idealized Design is *continuous*. It is not a process that is ever "finished". Once a system is designed or re-designed using this approach, design becomes the heart of the system – a continuous bridge between aspirations, needs, experience, and creativity.

Participatory Idealized Design is not just another "tool" or model for education reform. It is an entirely different approach to the question of institutional change, one that can employ many different methodologies or tools in the service of transformation. It requires a shift in how we think about leadership, and it requires an increase in the responsibility taken by citizens for guiding their destiny. It has the potential to significantly advance a community's ability to have a vibrant public life and to develop proactive visions – not only in education, but in any of its public institutions.

Designing Communities of Learning will enable a community to experience Participatory Idealized Design on any scale that it is ready for. The particular program described in this document is oriented toward a *demonstration scale* that will show the need for, and power of, participatory idealized design of public education in a community context. It is intended to foster design literacy and design competence in any community that shares a system of public education. As a community gains experience in Participatory Idealized Design, it will be able to design its own design process. The program outlined here is a starting point.

III Design Architecture

1. Definition

The “Design Architecture” consists of the basic components of the design program and how they are related. It includes a description of the organization that will support the effort, the sub-organizations that are required, and the various models, methodologies, and tools that can be employed.

2. Facilitation Team

The design experience will be organized and supported by a Facilitation Team. The Facilitation Team will include experienced advisors, facilitators, and trainers as well as laypersons who are trained specifically for the project.

The Facilitation Team will have several different functions. It will organize the participant recruitment effort, develop written materials for the user-designers, procure materials to support their work, arrange for facilities, train and support a group of “lay-facilitators” to work with the Design Conversation Groups, provide knowledge-base support, keep the public informed and involved, and facilitate the special work of the Design Integration Group (see below).

3. Design Conversation Groups (DCG’s)

The 90 to 120 residents of the community who participate in the project as user-designers will work in groups of 8 to 10 called Design Conversation Groups (DCG’s). These groups will meet weekly or semi-weekly for two-hour sessions. Each DCG will be assisted by a “lay facilitator” who will be trained during the preparation phase. Each group will meet in one of the locations that have been reserved for them by the Facilitation Team. These may include conference rooms in office buildings, churches, recreation facilities, community centers, and schools. Participants will be placed into groups based on compatibility of schedules and optimum diversity. They will meet in various convenient locations throughout the city. The work products of these groups will be processed and integrated by the Design Integration Group and re-distributed back to them through several cycles.

4. Design Integration Group (DIG)

The Design Integration Group (DIG) will be made up of twelve individuals drawn from the larger body of participants in the DCG’s. The DIG will organize and integrate the work products of the Design Conversation Groups, and provide those teams with critical insights on what they are developing. To support this mission, the DIG will use a computer-supported, collaborative design and decision-making methodology called CogniScope™. This methodology will be facilitated by a specially trained team. CogniScope is very useful for

working with complexity and helping people to understand the influence relationships among issues and ideas. The methodology is described in more detail below.

5. Methodologies and Tools

a. CogniScope™

The CogniScope™ system is a specialized process aimed at collaborative teamwork by a community of stakeholders, leading to the definition of a complex situation and the design of an action plan for the resolution of that situation. It was developed by the management conslulting firm CWA, Ltd. Through open and focused dialogue the community generates and clarifies a large number of elementary ideas (sometimes over 300) and design interactively an "action plan" which is co-owned by the stakeholders because it has been co-created. This is achieved with great efficiency through the combination of effective facilitation, computer support, appropriate consensus tools, and participants' commitment to an intensive effort. To date, CogniScope has seen hundreds of applications in a wide range of contexts and cultures in the public and private sectors.

In a typical application, the stakeholders employ the CogniScope system to perform three principal activities:

- Generation and clarification of the meanings of ideas contributed by the stakeholders in response to properly framed *triggering questions* that are specific variations on "What should we do?" and "How can we do what we should do?"
- Production of "idea patterns" which result from exploring relationships among ideas in the context of carefully-framed *generic questions*.
- Evaluation of idea patterns and action packages in response to agreed-upon *criteria.*

In the case of Designing Communities of Learning, the first activity will be performed by the Design Conversation Groups.

These activities are embedded in four distinct but interrelated stages in the application of the CogniScope system.

- Defining the problem or design situation by making statements in a round-robin fashion in response to the initial open-ended triggering question, clarifying these statements, clustering these by affinity in order to reveal the dimensionality of the problem or challenge, and exploring the influence and enhancement relationships to produce a visual pattern;
- Designing alternatives by generating solution ideas, clustering them, exploring their likely enhancement relationships and how they would address the issues identified in the

Definition stage (again generating a visual pattern of influence), and then choosing from among key options within clusters of affinity;

- Choosing a preferred alternative according to agreed-upon criteria, usually employing trade-off evaluation; and
- Planning for action, which includes considering the most effective sequence for implementation of the preferred solution alternative.

To assist users in grappling with complexity, CogniScope employs a computer-assisted methodology that allows the exploration of relationships among a great number of elements without overwhelming the short-term memory capacities of the participants. This process helps reveal influence relationships among elements, which in turn helps participants focus their priorities as well as learn about their own assumptions and decision preferences. CogniScope can also employ a wide range of consensus methods.

In Designing Communities of Learning, the generation of all issue statements and design solutions will be carried out by the user-designers in their Design Conversation Groups. The products of their work at each phase will be cycled through the Design Integration Group, who will use the CogniScope system to process their work and provide it back to them in a form that empowers them for the next phase.

b. Nominal Group Technique and Idea Development

Nominal Group Technique is a common and highly effective process for the generation of issue statements and ideas in a group context. Nominal Group Technique is preferred because it provides participants with an equal opportunity to make contributions, even for those who are usually shy in a group setting. It provides opportunity for the clarification of statements, and it is open-ended because the round-robin process encourages the on-going triggering of new and complementary ideas. *Idea Development* is an additional activity that involves participants commenting on each others' ideas and converging on their core principles. These methods will likely be used by the Design Conversation Groups.

c. (En)visioning

(En)visioning is a term that we are applying to the use of imagination to help user-designers to visualize in a rich manner their aspirations for the system of learning and for the community. (En)visioning may involve participants' creating a rich description of a desired future (or a desired present) that can then be used to inspire core values and core ideas. Such a vision, or the elements of that vision, can be expressed in many ways. These include oral storytelling, pictures, murals, and symbolism, and role-playing (e.g., pretending that you are a resident of that desired future). (En)visioning can play an important role in the experience of the Design Conversation Groups.

d. Options Fields, Modeling, and Trade Off Evaluation

There are several other methodologies and tools that will be used by the user-designers to maximize the effectiveness and satisfaction of their design journey. Options Fields are a way of laying out different combinations of design solutions. Modeling is the creation of a single, coherent representation of the complete system. Trade Off Evaluation involves the generation of criteria for judging design solutions, scoring the different solutions, and weighing them out in the final evaluation of alternative models. Both the Design Conversation Groups and the Design Integration Group will play a role in the generation of criteria for scoring alternative models. The DIG will use the CogniScope system for final evaluation.

6. Triggering Questions

Triggering questions, also known as guiding questions, are essential for framing the design journey. They state, concisely and precisely, the scope of the inquiry or a particular phase in the inquiry. A good triggering question will provide the user-designers with focus without limiting the creativity and variety of their responses. Five triggering questions will be employed in Designing Communities of Learning. These questions can be found in Section V.

7. "Three Lens" Model

In his work A Systems View of Education, Banathy suggests that it is critical to view a system through three complementary "lenses" in order to gain a comprehensive understanding of that system. As the user-designers design their idealized/idealizing system, the "Three Lens" Model will provide a framework in which to view their work. Any given design solution (e.g., an approach to evaluating a learner's progress, or a school architecture concept) may be described from all three of these viewpoints, described below.

a. Structure-Function Lens

The Structure-Function Lens offers a "snapshot" of the system at a moment in time. It is a description of the internal structure and functions of the system.

b. Process Lens

The Process Lens provides a "motion picture" view – a view of what is happening over time as a given activity or function is performed. This includes desired and expected outcomes.

c. System-Environment Lens

The Relationship Lens shows the relationships between the system itself and other systems in the community and larger society that are necessary to carry out the function or activity. These

relationships are the flow of human resources, the flow of financial and other material resources, and the flow of communication.

Use of the Three-Lens Model will foster more thorough development of design solutions. It will also contribute to a more “systemic” description of the designed system – a description that recognizes the essential interconnections among all aspects of the system. An example of three-lens modeling is provided as Appendix 2.

8. Support Systems

The journey of participatory design is not undertaken in a vacuum. The user-designers must be supported in their disciplined and creative work, and the larger community must be involved as much as possible. Two support systems that will be provided in Designing Communities of Learning are a Knowledge Base Support System (KBSS) and a Public Awareness and Involvement System (PAIS). The KBSS will provide the user-designers with access to the best available knowledge about learning and learning systems, which they can use in their design of the system that will help them to achieve their aspirations. The PAIS will keep the larger community informed of what is happening and allow them to participate to the most practical extent possible as the design unfolds. These support systems are described in more detail in Section VI.

IV Preparation

1. Obtaining Resources

Designing Communities of Learning requires significant human and financial resources. Human resources include the Facilitation Team; advisors with experience and insight in the arena of institutional design; experts in the arena of learning systems and educational institutions; lay-facilitators; specialized consultants; and volunteers.

Core support personnel – including the Facilitation Team, advisors, and specialized consultants – will be identified and recruited by the Mary Parker Follett Foundation from among a national network of experts and practitioners. Lay facilitators and volunteers will be recruited from the local populace and from local universities.

Financial resources are required in order to compensate core staff and to pay for services, materials, and facilities. Funding should come from local sources whenever possible. These sources will include private foundations and corporate giving programs where those corporations are supportive of efforts that show promise for substantial, deep-rooted, systemic change in education systems and in the community environment that supports learning. Several potential sources of funding for Designing Communities of Learning demonstrations have been identified and the Mary Parker Follett Foundation has initiated conversations preliminary to grant applications.

It is estimated that a Designing Communities of Learning demonstration project will cost upwards of $60,000. This budget should enable the objectives outlined in Section I to be achieved. A line item budget may be detailed in a later version of this Guidebook.

2. Fostering Institutional Support

The support and involvement of the school district administration is desirable for the demonstration effort. It is desirable because it will foster greater receptivity to the process and its application to the school district itself through the initiative of its own leadership. District participation may also mean access to school facilities for meeting space, as well as easier access to data and knowledge not otherwise locally available. Fostering this kind of institutional support will require meeting with the school board and with key adminstrators.

“Institutional support” is not limited to school district administration, however. Teacher’s unions are a key player in the political process and sometimes explore reform issues themselves. Significant effort should be made to elicit the support of these and other major stakeholder organizations in the community undertaking the journey of design.

3. Development of Materials

Materials needed to support Designing Communities of Learning include this Guidebook, a notebook for the participating user-designers, and handbooks for the lay-facilitators. The user-designer notebook will be a binder that includes a "map" to the design process, guiding notes, and space for the user-designer's own notes, ideas, and questions. It will also provide space in which the products of their work can be added in an organized fashion.

The lay-facilitator's handbook will be a review of what they have learned during training. It will include notes on how to keep the design conversation running smoothly, instructions for conducting the idea-generation and idea-processing activities that the Design Conversation Group will employ, and troubleshooting tips.

A notebook will also be designed for the members of the Design Integration Group to help them manage the specialized task of collating the work of the Design Conversation Groups and using the CogniScope methodology.

4. Selection of Participants

Selection of participants will be done through a Community Reference System. This is a peer-nomination process that begins with the drawing a rough social map of the community in the context of stakeholders in education. Areas of this social map might include "Parents", "Educators", "Students", "District Administration", "Small Business", "Major Employers", "Special Needs Advocates", etc. The definition of areas of this social map is subjective and will vary from community to community. The key question for guiding the drawing of the social map is "Who are the people/groups with distinct perspectives on the nature, functioning, and future of the education system in this community?"

In each area of the social map, we begin with one individual who is "well connected". We will describe the project and then ask that person for the names of two or three people who they feel would represent well the priorities, concerns, and values of that stakeholder area. We then ask each of those nominated people for a set of names based on the same criteria. Following two or three iterations of this process, a large pool of names is generated.

Some of the same names will appear across social map boundaries, and this helps determine how to maximize the interactive value of diversity with a high level of trust and buy-in from the larger public. A subset of that pool of individuals will be approached regarding participation in the design project. We will continue going down the list until we have the 90 to 120 participants required to make the project a success. A "back-up" list should also be developed from the pool. A sample initial letter of approach is provided as Appendix 5.

5. Public Awareness Campaign

A public awareness campaign prior to the start of the design experience will help to prepare members of the general public to think about the same kinds of questions that the user-designers will be dealing with. It will show them how to stay informed about the progress of the teams, and it will help to inspire them to support the extension of successful results of the demonstration project to the real school district.

The public awareness campaign should include stories in the media about the project and why it is being carried out. Advertising, to the extent that it is affordable, should highlight the core assumptions behind the project. The Facilitation Team should, wherever possible, make arrangements with the local newspaper to provide on-going coverage of the products of the user-designers. As the project progresses, the Public Awareness and Involvement System will serve to keep the public engaged. This is described in more detail in Section VI.2.

6. Formation of Design Conversation Groups

Design Conversation Groups are the groups of residents who will spend many hours together during the design journey. The formation of these groups will be determined first by schedule. Some participants will be more available in the mornings, others in the afternoon, and still others not until the evening. Some will be free on the weekend, while others will not. Accommodating their personal schedules will be important.

A second factor in determining the constituency of DCG's is diversity. The diversity of the pool of participants should result in a design that is be both broadly appealing and representative of the power of collaboration among diverse stakeholders. In order to fulfill this potential, the interaction between diverse individuals must be maximized in the supportive environment offered in the DCG's. It is neither feasible nor desirable to "engineer" such interaction. However, it can be fostered by avoiding, to the extent possible, the formation of DCG's based on like-mindedness or similar background. It will be up to the Facilitation Team to assess the best starting point for group combinations, but from that point on there is no determining what the participants will create in common or learn from each other.

7. Opening Conference

The opening conference will provide an opportunity for all of the user-designers to meet for the first time. After opening introductions, an overview of the process will be provided. The user-designers will then break out into their respective Design Conversation Groups and begin to get to know each other. This opening meeting should take place on a Saturday and can be expected to run from mid-morning to mid-to-late afternoon, with lunch provided. The media should be invited as part of the public awareness campaign for the project.

8. Generative Dialogue

Participatory Idealized Design involves two different but interwoven kinds of dialogue. One is called strategic dialogue, which is oriented toward generating ideas and making decisions. This is familiar to many people. The other kind of dialogue is called generative dialogue. Generative dialogue, at a minimum, helps to establish familiarity with each other's (and one's own) viewpoints and assumptions. It is important to the creation of an atmosphere of trust and a sense that what we produce in common is more important than where we start. Ultimately, generative dialogue aims to establish a shared set of values/beliefs, creating a common ground upon which participants can proceed with the strategic dialogue (design). This is often missing in collaborative activities.

Generative dialogue will be encouraged within the Design Conversation Groups prior to any design work per se. One full meeting, if not more, can be expected to be dedicated to generative dialogue. Furthermore, there will be moments during the work of strategic dialogue that clarification and exploration of issues or ideas lead back into generative dialogue. This is important and natural, although it should not be allowed to take the group too far off track.

V Design Process

1. Phase I – "Painting the Largest Picture on the Largest Canvas"

The designers must begin their design journey by defining the context in which the system of learning and human development will be meaningful. In other words, an educational system is presumed to have a purpose within a context of some kind of desired image of community and society. What is that image? This is the question framed by the first triggering question of the project:

> Triggering Question 1:
>
> "What (are the markers of the) kind of [name of community], nation, and world that we should be aspiring to for current and future generations of learners?"

Without this step of "painting the largest possible picture on the largest possible canvas," this act of idealization about the larger context, it would not be possible to proceed with designing an educational system that fits the aspirations of its stakeholders and the realities of the world. A system designed without this fit will be doomed to chronic failure. This step also helps to get the diverse user-designers "on the same page" when they approach the design of a shared educational system.

Round 1: Design Conversation Groups

Participants in the Design Conversation Groups will be asked to respond to the triggering question with "markers" – core values and core ideas – that will contribute to the image of their desired community/society. They will most likely use Nominal Group Technique, supplemented by (en)visioning activities designed to help participants surface their ideals and express them (see Section III.5.c). Based upon past experience, It is reasonable to expect that each DCG will generate between 50 and 150 markers. The round-robin process will include a round in which participants can ask for clarification of each other's markers. All markers and clarifications will be recorded on index cards and on laptop computer (the latter either during or shortly after the meeting).

All markers are the "property" of their authors, and no judgment or agreement is required at this point. However, participants may ask others to revise or combine markers, and this can be done if the author agrees that the revision would result in a better representation of what they, or the group, are trying to convey.

The group will then organize their markers by similarity of subject, and name the resulting clusters. The clusters represent the emerging "dimensionality" or shape of the image that they

are creating. This is essential for showing the user-designers the relative completeness of their image.

Finally, each group member is given several votes to assign to the markers that they feel are most important and desirable. This will help them to prioritize and it will reduce the sheer number of markers taken into the next phase by all of the Design Conversation Groups.

Round 2: Design Integration Group

The lay-facilitators for the DCG's will deliver or transmit the markers, clarifications, and clusters to the Design Integration Group (DIG). This group will read through all of the markers, organize them all by subject and similarity, and provide the resulting "superclusters" with names that fit. The DIG will combine markers to reduce the redundancy that they will inevitably find. Finally, they will integrate each of the remaining clusters of markers into a prose statement that captures as closely as possible the essence of every marker in that cluster. This set of statements represents the "Core Definition" of the image of community/society to which the resident user-designers are aspiring, and it represents the context in which they will be designing their system of learning and human development.

The Core Definition from this phase will be provided to every user-designer for addition to their notebook. The user-designers are not required to refer to all or any of it in their next phase, but it is intended (and likely) to serve as a backdrop for their work. The user-designers will be encouraged to reflect upon this Core Definition between meetings, and the DCG will be encouraged to dedicate some time to reviewing and discussing it before proceeding to the next phase.

2. Phase II – Designing the System of Learning and Human Development

Note: The scope of "system of learning and human development" is decided upon by the user-designers. It will in many cases be thought of as covering what is known as the "K-12" range, but it could potentially involve serving people from birth to death. Designers who find the need for the scope of their design to involve "higher education" in order not to conflict with their freedom of design for younger ages should not hesitate to do so.

a. Defining the Image of a System of Learning and Human Development

Round 1: Design Conversation Groups

In this next phase, the participants will be narrowing their focus to the system that they are actually designing. They will begin with the creation of a second image: the set of core values and core ideas that will underlie the system of education that they are designing. Again utilizing Nominal Group Technique or comparable method, along with activities designed to

help them feel comfortable idealizing and transcending the existing image of education, the participants will be asked to respond to the following triggering question:

> Triggering Question 2:
>
> "What should be the core values and core ideas of a system of learning and human development that can fulfill the human potential of all learners and help take [name of community] and our society where we want it to go?"

As in Phase I, the groups will have a clarification round, a clustering and naming round, and a voting round.

Round 2: Design Integration Group

As in Phase I, the Design Integration Group will combine markers to reduce redundancy and re-cluster the markers as necessary. This time, however, they will begin to employ the CogniScope system to provide the user-designers with valuable insight into the relationships among the markers they have generated. Utilizing a generic triggering question that asks whether the realization of selected markers would significantly enhance the realization of other markers, the DIG will use CogniScope to generate a visual "enhancement pattern" that shows the relative leverage and influence among and between the markers.

The development of these enhancement patterns will greatly assist the user-designers in focusing their design work. For example, the pattern might indicate that a marker such as "Close relationship between educational system and other community institutions" would contribute significantly to the realization of other markers, such as "Everyone has an equal opportunity to learn" or "A strong local economy". This knowledge would, in turn, encourage the user-designers focus more creative energy on how to establish a close working relationship between the educational system and other community institutions in the next phase of design.

Every user-designer will be provided with a report of the results of the DIG's processing of their markers, including the enhancement pattern and accompanying explanation. This should be reflected upon and discussed within each group prior to the next step.

b. Designing Specifications

Round 1: Design Conversation Groups

In the next step in Phase II, the user-designers will develop a set of specifications for the system of learning and human development. They will employ the following triggering question:

Triggering Question 3:

"What general features must the system of learning and human development have in order to fulfill the image that we have created?"

The groups will use Nominal Group Technique or comparable method, clarification, clustering, and voting, as in the earlier steps.

Round 2: Design Integration Group

The Design Integration Group will compare all of the specifications passed along by the DCG's and work to eliminate redundancy among the contributions. The DIG will then use CogniScope to create a new enhancement pattern that indicates the relative leverage and influence among the various specifications. This will help the user-designers focus on generating design solutions that address the most important specifications in each dimension of their design. The user-designers will be provided with a report of the findings of the DIG in this round. As in the earlier stages, the groups will be encouraged to reflect upon and discuss these findings before proceeding to the next step.

c. Design Solutions

Round 1: Design Conversation Groups

In this third step of Phase II, the user-designers will be generating Design Solutions: concrete ideas for how to fulfill the idealized image created earlier and to fulfill the Specifications that they have received back from the DIG. The following triggering question will be employed:

Triggering Question 4:

"What are the structures, functions, relationships, programs, policies, roles, and curricula that can fulfill the image and specifications that we have created for a system of learning and human development?"

The groups will again use their full range of idea-generation methods and any other necessary supporting activities. Groups will be advised that the issue of resources needed to Design Solutions should *not* be considered a limiting factor at this point. It is too early to introduce that factor because it would inhibit the potential creativity of the process. However, ideas for resources for the system can be Design Solutions themselves.

It is at this point that the Knowledge Base Support System (KBSS) will be brought into use to provide the user-designers with the best available information that they may need to support their generation of Design Solutions (see Section VI.1).

The Three-Lens Model should also now be brought into play in order to help the user-designers achieve a comprehensive, systemic and transparent design. The set of Specifications returned to the DCG's from the DIG in Round 1 will become headers on the left side of a table designed for Three-Lens Modeling (see Appendix 1). To the right of each Specification header will be placed the Design Solutions that are generated in the next step to help fulfill that Specification.

There will be three columns covering the rest of the table. One is for the Structure-Functions Lens, one is for the Process Lens, and one is for the System-Environment Lens. Each Design Solution placed in the table should, *wherever possible*, be described from all three angles. Doing so may require the assistance of all of the participants in the DCG.

This round will require several meetings to complete. The resulting markers and clarifications, after clustering and voting, will be provided to the Design Integration Group for processing.

Round 2: Design Integration Group

The Design Integration Group will read through all of the Design Solutions and clarifications forwarded by the DCG's. They will again reduce redundancy and re-cluster as necessary. They will then use CogniScope to explore influence relationships among the Design Solutions. This will involve two rounds. One is an exploration of enhancement relationships among the Design Solutions. The other is an exploration of the enhancement relationships between Design Solutions and the earlier Specifications. The resulting enhancement patterns will be critical to the next round, in which the user-designers will create preferred combinations of Design Solutions to form several alternative models.

d. Creation and Selection of Alternative Models

Round 1: Design Conversation Groups

With the enhancement patterns from the earlier round in hand, each DCG will review the full set of remaining Design Solutions and work toward a consensus on which combination of Design Solutions is the most desirable. To assist them, they will use an Options Field to create an Options Profile. In the Options Field, each cluster or "dimension" of Design Solutions has its own column in which preferred Design Solutions will be highlighted. A "tie-line" connects the highlighted solutions so that the user-designers can see their combination of Design Solutions taking form as a complete "model".

If it is still difficult to find consensus among all of the members of a DCG, they may split into two or three separate groups, each of which makes its own selection of preferred Design Solutions.

As a final step in this round, each DCG will use a round-robin approach to generate a set of criteria by which Design Solutions should be scored. The group should now try to achieve consensus on that set of criteria and on their relative ranking. For example, should "Effectiveness" be weighed more heavily than "Cost," and how should "Ease of Implementation" fit into the ranking, etc. These criteria, along with the various alternative models, will be delivered to the Design Integration Group.

Round 2: Design Integration Group

The Design Integration Group will compare the various criteria and their rankings generated by the DCG's. They will, utilizing CogniScope as necessary, develop a final list and ranking that reflects the will of the DCG's. They will then assign specific weights to the criteria.

Next, the DIG will compare the alternative models (systems of Design Solutions) forwarded by the DCG's. Unless the models are broadly divergent, those that are similar will be combined in order to reduce the number that need to be compared down to no more than three. The DIG will next utilize CogniScope and associated consensus methods to assign overall scores to the Design Solutions in these models *in the context of the model in which they appear*. This means that the scoring will take into account the fact that a Design Solution in one combination of solutions may deserve a score that is higher or lower than the same Design Solution deserves in a different combination. Design Solutions will be scored against the weighted criteria established earlier.

The total scores for each alternative model will be tallied, and the model with the highest score will be the new design for a system of learning and human development that is adopted in the demonstration project.

3. Phase III – Designing the Enabling System and Transition Design

Round 1: Design Conversation Groups

All of the DCG's will now be working with the same new model for a system of learning and human development. Their final task is to design the Enabling System: the support system that would be necessary to facilitate the transition from the existing system to the new system. The DCG's will address the following triggering question:

Triggering Question 5:

What actions are needed to facilitate the transition between the existing system and the designed system?

Such actions might include initiatives to change laws at the state level, or they may involve changes in school district policies. They might involve the development of new relationships with other public institutions. They might include the invention of new approaches to financing. The possibilities are many.

The DCG's will proceed through discussion, Nominal Group Technique, clarification, clustering, and voting, and forward their resulting Enabling/Transition Solutions to the Design Integration Group.

Round 2: Design Integration Group

The final task of the Design Integration Group will be to narrow down the list of Enabling/Transition Solutions by reducing redundancy. They will utilize CogniScope to identify those that are of highest priority. They will finally utilize CogniScope to explore the optimum sequence of actions required to facilitate the transition from the existing system to the new system.

4. Follow Up

a. Closing Conference

The user-designers, volunteers, and staff should all gather shortly after concluding their work for closing remarks, thanks, and celebration. The Facilitation Team should provide a short presentation that portrays in a rich manner the system of learning and human development that the participants have designed together. The user-designers – ordinary citizens who have invested much time and effort – will have accomplished a remarkable feat that will have long-lasting benefits to their community.

b. Final Report

The Facilitation Team will prepare a Final Report that includes all of the work products of the DCG's and the DIG, these products collectively known as the "Design Documentation". Notes from the experience of participants, lay-facilitators, the Design Integration Group, the Facilitation Team and advisors will be included. Public comments received during the demonstration project will be incorporated as well. This Final Report will be provided to project funders, local stakeholder groups, and to the school district. Other parties should be able to obtain the report upon request.

c. Extension of the Design Conversation

As the project concludes, the Design Documentation may be shifted into an interactive space through which the general public or specific groups can play with, converse about, add, or

request modification of markers, specifications, and solutions. This would be a useful very component of a longer-term design literacy program.

d. Extending the Demonstration to the School District Itself

It is hoped that there will be sufficient impetus from the demonstration experience to convince a critical mass of stakeholders to extend the participatory design to the school district itself. This would require a consensus from a broad range of stakeholders, including the leadership of the school district. If a commitment were made to move forward, there are two ways that the redesign of the community's education system could proceed:

1. Start the design process from the beginning with a much larger body of participants. (No matter how many people participate directly, care should be taken to ensure that stakeholder representation is not lost in the numbers.)
2. Using the design from the demonstration project as a starting point, create opportunities for the greater community to reflect upon and make amendments to the design as it heads toward implementation.

As a general principle, the greater the sense of connection and ownership that the citizens have in the system, the more legitimate and responsive the system will be to their needs, aspirations, and creativity. This is why the participation of as many residents as possible is both desirable and necessary.

Carrying the design forward into implementation would not be a quick or easy process. A time frame of five years or more should be expected for the transition to take root. It may take a full generation of learners moving through the system to actually finish "building" the system.

Whatever path of design the community chooses, it will need to adapt the initial design into a "spiral of living design". The spiral of living design is a framework that fosters a permanent and evolving public dialogue. It directly connects (a) the core values and core ideas of the stakeholders, (b) the structures, functions, processes, and policies of the system, and (c) the actual experience of the system, so that the institution and the people who comprise it learn together. It is in this sense that "design never ends," ensuring a proactive, healthy, purpose-seeking, and high-performing education system for generations to come.

VI Support Systems

1. Knowledge Base Support System

The Knowledge Base Support System as currently envisioned will have three components:

- **Research Team,** consisting of volunteers and coordinated by an Editor.
- **Consulting Experts** both within and outside of the community.
- **Interactive Database**: built as the design journey proceeds.

When a Design Conversation Group needs information in order to support their design work, they fill out a form that asks for the following:

(a) the question
(b) the *depth* of information sought:
  - "yes/no" answers
  - full-page discussions

(c) the *type* of information sought:
  - statistical
  - anecdotal
  - comparative
  - case-studies

(d) urgency – how soon they need this information:
  - before the next meeting
  - before the end of this phase

The final request is crafted by the lay-facilitator working with that group, who sends it to the Editor. The Editor decides how the question can be best addressed. They first consult the Interactive Database – to be built out of the cumulative queries of the Design Conversation Groups – to see if a similar query has already been made and responded to. If not, they will probably forward it to the Research Team, who are local volunteers familiar with a range of sources and how to pinpoint and focus information. They will rely heavily on the ERIC database and a range of other sources including those listed below. They will pull together a response and deliver it to the inquiring team.

If the question is too specialized or requires the insight of someone who is intimately familiar with the subject, the Editor will refer it to one of the Consulting Experts. That Consulting Expert may provide an answer, or – more commonly – they may help the Research Team focus their research. All responses obtained from any sources will be entered into the Interactive Database for others to consult more easily.

Selection of Online Resources for the KBSS Research Team

- ERIC Database: www.askeric.org
- Regional Education Labs: www.relnetwork.org
- National Library of Education: www.ed.gov/NLE/faqs.html
- U.S. Network for Education Information (includes other countries): www.ed.gov/NLE/USNEI/
- The Gateway: www.thegateway.org
- National Clearinghouse for Educational Facilities (NCEF): www.edfacilities.org
- Infed.org – Informal Education and Lifelong Learning: www.infed.org
- National Center for Community Education: www.nccenet.org
- U.S. Charter Schools: www.uscharterschools.org
- The Center for Education Reform: www.edreform.com

2. Public Awareness and Involvement System (PAIS)

The Public Awareness and Involvement System will help to keep the public informed and engaged so that they are inspired by the process and feel a sense of ownership in it. It will play a key role in fostering "design literacy" among the community. The staff supporting the PAIS will begin working early in the project by providing the media with key information about the project, its purposes and its value, by organizing informational forums, and by arranging for interviews and discussions on local talk shows wherever possible. The PAIS will also create advertising material that is designed to inspire members of the general public to think about the same kinds of questions and choices that the user-designers are going to be grappling with.

Each week during the design experience, a small team of Public Awareness Facilitators will review the work products and transcripts (audio) of Design Conversation Groups and the Design Integration Group. They will prepare several different types of reports for the public.

1. Comprehensive Reports of work products (Design Documentation) that will be displayed on the project Web site.
2. Summaries of work products that will be displayed on the project Web site and transmitted to policy makers and the media.
3. Transcripts of design conversations that highlight and illustrate particularly interesting issues, exchanges, and breakthroughs, which will be prepared for use by newspapers (print) and radio (audio) as part of on-going coverage.

APPENDIX

1 – Example of Three-Lens Modeling

2 – Example of Enhancement Pattern with Design Solutions Overlay

3 – Example of Options Field

4 – Sample Project Schedule

5 – Community Reference System – Initial Letter Sample

6 – References and Further Reading

Appendix 1: Example of Three-Lens Modeling

The following example includes a small number of hypothetical design solutions; these are only examples, not intended for suggestion.

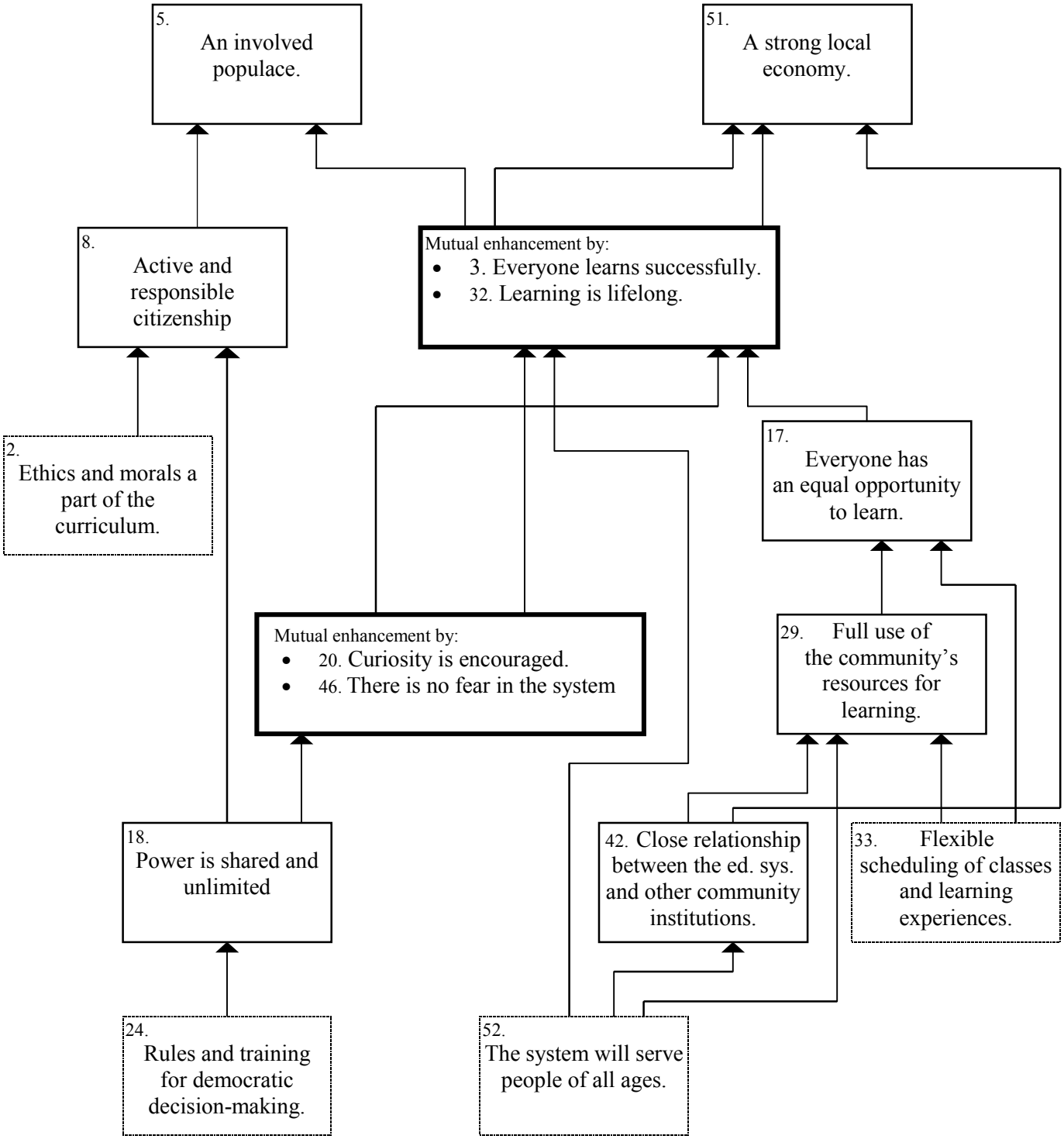
Specifications By Dimension	**Design Solutions through STRUCTURE-FUNCTIONS LENS**	**Design Solutions through PROCESS LENS**	**Design Solutions through SYSTEM-ENVIRONMENT LENS**
SCHEDULE OF LEARNING ACTIVITIES The learning day, week, and year is built around the physical and cognitive needs of learners and the schedules of families first.	• "Learner Ergonomics" protocol drives scheduling of learning activities. • Night School program.	• Younger learners begin the school day earlier, and older learners later in the morning, to fit sleep patterns. • Learners enroll in night school for family reasons or situations that make it preferable.	• Breakfast program and after school programs are coordinated with parent schedules. • Public transportation, law enforcement, and child welfare provide support to make best use of night school option and to make it safe and convenient.
The rate of progression through curricula is driven by the rate of mastery by learners.	• Interactive, participatory assessment policy.	• Learners participate in evaluating their readiness to progress and in making adjustments to activities.	• Textbook and software providers cooperate to produce materials that enable self-evaluation and adjustment.
FACILITIES FOR LEARNING Every available setting in the community that provides the best learning opportunity is utilized.	• District-level position of Educational Transport Coordinator, who is an educator.	• Works with Field Learning and public transportation authorities to develop transport opportunities tailored for learning activities across the community.	• Public transportation authorities develop and offer maps, kiosks, and flexible schedules and fares for transport to distributed learning activities.
Learning centers / schools are used to full value by neighborhoods.	• Open-use policy for neighborhood activities with "maintenance subscription" system that distributes cost efficiently and fairly.	• Neighborhood associations, study circles, and recreation groups schedule use in advance using annual registration and Web-based scheduling.	• District administration, facility heads, maintenance depts., community groups and patrons communicate needs, issues, and recommendations through an annual working group.

Appendix 2: Example of Enhancement Pattern with Design Solutions Overlay

Note: This example was not generated with CogniScope™ and may not accurately represent a visual product of software associated with CogniScope™.

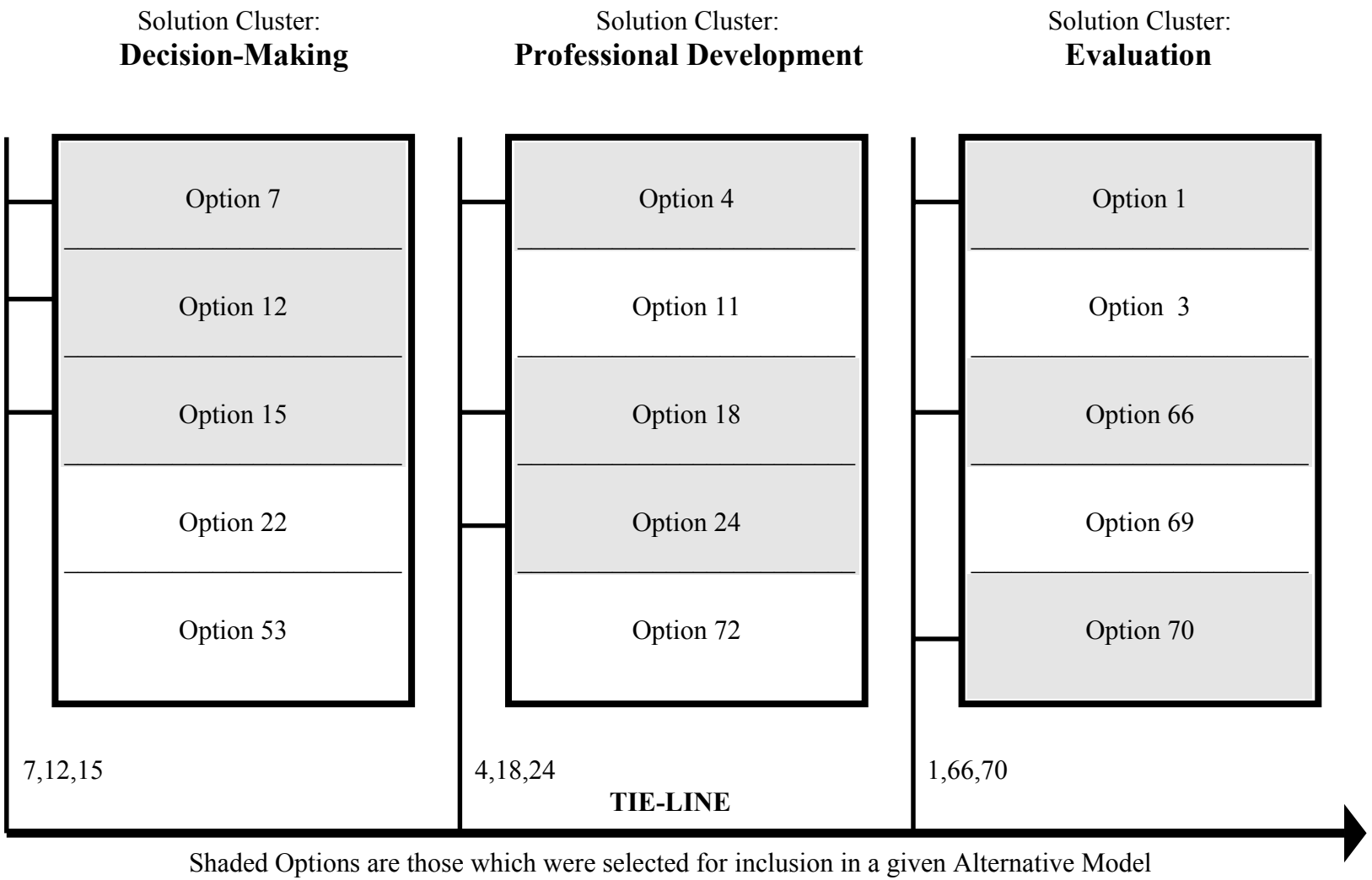
SOLID LINE BOXES = MARKERS **BROKEN LINE BOXES = DESIGN SOLUTIONS**

→ = ENHANCES or SUPPORTS



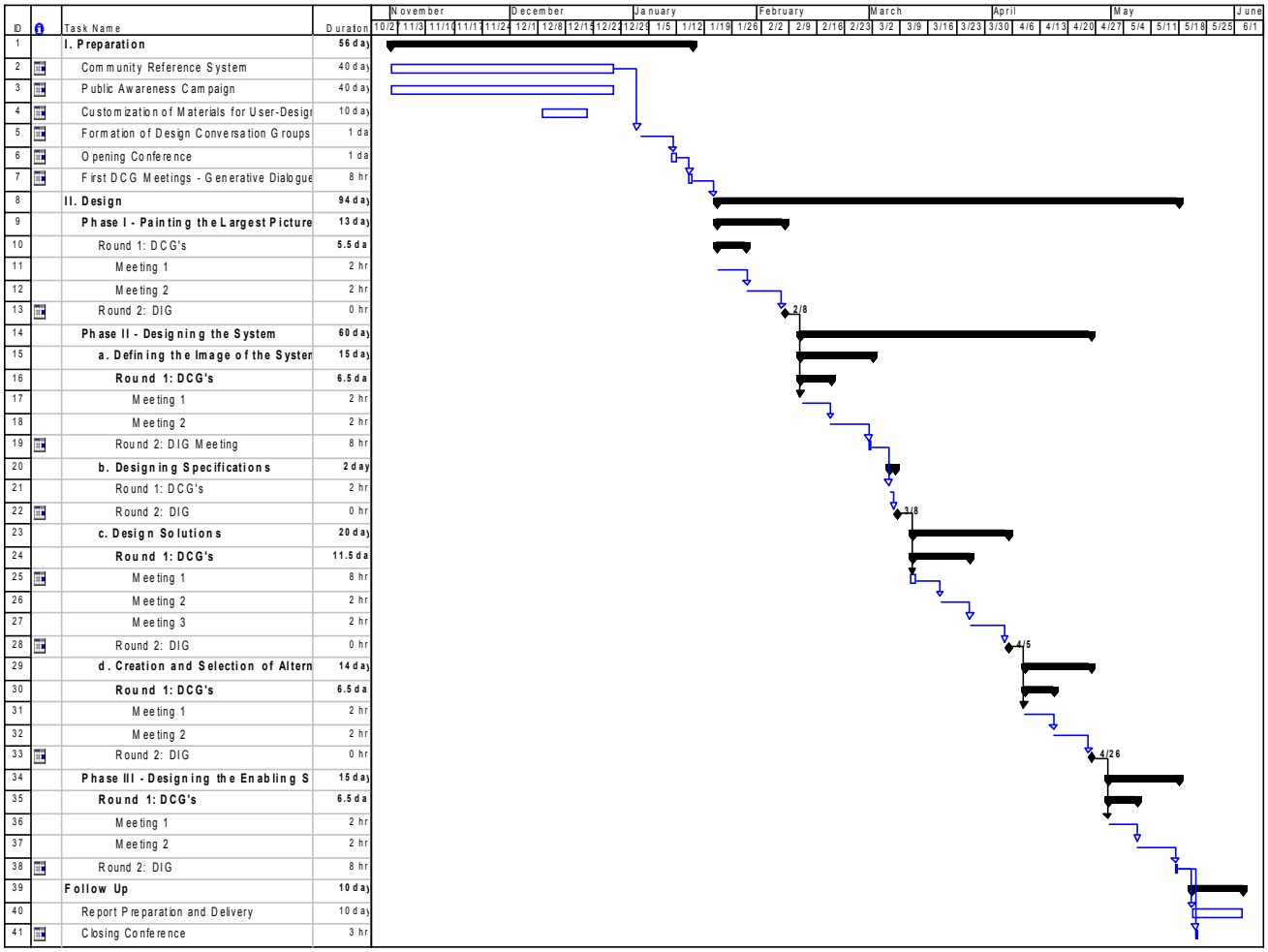
Appendix 3: Example of Options Field

Options Field Clusters and Tie-Line (Partial Example)



Shaded Options are those which were selected for inclusion in a given Alternative Model

Appendix 4: Sample Project Schedule



ID	Task Name	Duration
1	**I. Preparation**	**56 day**
2	Community Reference System	40 day
3	Public Awareness Campaign	40 day
4	Customization of Materials for User-Desig	10 day
5	Formation of Design Conversation Groups	1 da
6	Opening Conference	1 da
7	First DCG Meetings - Generative Dialogue	8 hr
8	**II. Design**	**94 day**
9	**Phase I - Painting the Largest Picture**	**13 day**
10	Round 1: DCG's	**5.5 da**
11	Meeting 1	2 hr
12	Meeting 2	2 hr
13	Round 2: DIG	0 hr
14	**Phase II - Designing the System**	**60 day**
15	**a. Defining the Image of the Syster**	**15 day**
16	**Round 1: DCG's**	**6.5 da**
17	Meeting 1	2 hr
18	Meeting 2	2 hr
19	Round 2: DIG Meeting	8 hr
20	**b. Designing Specifications**	**2 day**
21	Round 1: DCG's	2 hr
22	Round 2: DIG	0 hr
23	**c. Design Solutions**	**20 day**
24	**Round 1: DCG's**	**11.5 da**
25	Meeting 1	8 hr
26	Meeting 2	2 hr
27	Meeting 3	2 hr
28	Round 2: DIG	0 hr
29	**d. Creation and Selection of Altern**	**14 day**
30	**Round 1: DCG's**	**6.5 da**
31	Meeting 1	2 hr
32	Meeting 2	2 hr
33	Round 2: DIG	0 hr
34	**Phase III - Designing the Enabling S**	**15 day**
35	**Round 1: DCG's**	**6.5 da**
36	Meeting 1	2 hr
37	Meeting 2	2 hr
38	Round 2: DIG	8 hr
39	**Follow Up**	**10 day**
40	Report Preparation and Delivery	10 day
41	Closing Conference	3 hr

Appendix 5: Community Reference System – Initial Letter Sample

November 1, 2002

Jean Smith, President
Involved Parents of Steel City
1400 E. Washington St.
Steel City, WI 54958

Designing Communities of Learning – Seeking Nominations

Dear Ms. Smith:

I am writing to you on behalf of the Mary Parker Follett Foundation **[or other enabling organization]** to ask for your participation in an important project related to public education. This project is called Designing Communities of Learning, and it is a practical demonstration of a dramatically different approach to change in systems of public education.

In this demonstration project, 90 to 120 diverse residents of Steel City will design a mythical school district for Steel City without regard to the assumptions, structure, and operations of the existing system. They will utilize a disciplined and creative process called Participatory Idealized Design that helps them transcend their existing image of education. The "core assumptions" behind this project are as follows:

4. If a community today had to design a system of learning and human development (public education system) completely from scratch, it would not look like what we have today.
5. The only way to know if the present system is the best possible is to design the ideal and then look at the present system in light of that ideal.
6. Only the users of a system have the right to design that system.

The objectives for Designing Communities of Learning project include the following:

5. To demonstrate the usefulness and effectiveness of participatory, idealized design toward the positive transformation of public education.
6. To produce ideas and directions for positive change in the existing Steel City School District.
7. To produce inspiration and impetus toward the full Steel City community undertaking the journey of designing their system of public education.

8. To foster design literacy and design competence across the Steel City community, to enhance citizen interest, participation, and empowerment in working with institutions that are publicly owned.

In order to identify a good pool of participants for this demonstration project, we are employing a peer-nomination approach. We will be asking well-connected and supportive individuals in different interest areas of the Steel City community to nominate three people whom they feel would well represent the priorities and concerns of that interest area (recognizing, of course, that people wear "many hats" in the real world).

As you are someone who is deeply involved in this community and working on issues that involve a real interest in education, we are writing to ask if you would be willing to nominate two or three people for participation in this project. *We would not tell them who nominated them*, thus protecting your privacy, but you would be free to inform them that you nominated them if you so choose.

If you agree to think about possible nominees, we would ask you to keep in mind the following three criteria:

- They have a strong interest in educational issues.
- They are well respected (particularly by those who share your interests and concerns).
- They are someone whom you feel would well represent the interests and concerns of this community.

Thank you for your consideration. Please use the enclosed Nomination Form and self-addressed stamped envelope when making your nominations, and please reply as promptly as you can. If you would like additional information about the Designing Communities of Learning project or about the Mary Parker Follett Foundation, visit our Web site at www.follettfoundation.org or contact me at the number on our letterhead. The guidebook to our Designing Communities of Learning program can be downloaded from the site in PDF format.

Sincerely,

Matthew A. Shapiro
Program Director
The Mary Parker Follett Foundation, Inc.
[or other enabling organization]

References and Further Reading

1. Books

Banathy, Bela H. *Systems Design of Education.* Englewood Cliffs, NJ: Educational Technology Publications, 1991.

Banathy, Bela H. *A Systems View of Education*: *Concepts & Principles for Effective Practice.* Englewood Cliffs, NJ: Educational Technology Publications, 1992.

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Christakis, Alexander N. and Kenneth C. Bausch. Technologue: Technology-Supported Disciplined Dialogue, in: *Transformative Power of Dialogue*, Nancy Roberts, (ed.), New York: Elsevier, 2002.

Warfield, John N. *A Science of Generic Design: Managing Complexity Through Systems Design.* Ames, Iowa: Iowa State University Press, 1994.

2. Journal Articles

Banathy, Bela H. "The Three Imperatives of the Design of Educational Systems: Transcend-Envision-Transform." *Educational Horizons*. Summer 1994, pp. 186-95.

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