
Building to Capacity: A Review of Technical Assistance Strategies

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INTRODUCTION

This paper presents a rough schematic view of technical assistance. It does not purport to be systematic or unbiased. Instead, it is a retrospective analysis through the lens of technical assistance as capacity building, in which capacity includes the development of knowledge, skills, connections, self-reflection, and power to carry out planned change efforts at the “local” level, where the change is to occur. The paper lays out several approaches to technical assistance, and delineates a number of dimensions that may be useful to consider in the development of more effective models of technical assistance. This examination looks primarily at education reform, with several references to youth development and problem prevention programs, community change initiatives and the development efforts in agriculture both domestically and internationally.

For the most part, the paper draws on formal evaluations, descriptive reports, proposals, and theoretical models of technical assistance or large scale change efforts of which the technical assistance was a part. The majority of the formal evaluations were carried out on the Office of/Department of Education technical assistance initiatives related to the adoption of federally-initiated programs; these evaluations typically addressed both process and outcome questions, identifying essential characteristics, behaviors, and attitudes within the relationship between the technical assistance system and the change effort; and assessing the impact of the assistance according to what was adopted, transferred, developed, or facilitated.

The literature about technical assistance is uneven. There are systematic data, thoughtful analyses, and classification matrices about some approaches but not others. For example, relatively few foundation-initiated technical assistance efforts have been the central focus of evaluation; when technical assistance is addressed, it has typically been part of the larger change effort, with only a few paragraphs in the foundation reports devoted to the methods and effectiveness of the assistance. And in the large body of work about linking agents in the government-funded educational change efforts, “most conceptions of educational linking agents have been prescriptive and logical rather than descriptive and empirical” (Hood, 1982, p. 2.14).

The paper is thus limited by the available information on the analysis and effectiveness of technical assistance efforts through the years. By default, it relies more heavily on those sources that provide more empirical information and on secondary analyses of research studies from the period of intensive government-supported technical assistance efforts. Undoubtedly, numerous interesting and valuable technical assistance experiences have not been documented, studied, or represented in this paper.

We begin by recounting definitions of technical assistance and then describe the traditional three-party relationship (funder, assister, local change effort). We present a schematic organization of technical assistance efforts in the past, and finally propose a set of dimensions for consideration in the construction of technical assistance efforts that move the model toward one of capacity building.

DEFINITIONS

The idea that people need help from others to survive is the basis of human social organization. The term “technical assistance,” however, implies more than a naturally occurring set of human relationships. It contains an assumption of deliberateness, both in the undertaking of a planned effort to bring about change, and in the nature, structure, and purpose of the help.

What is meant by technical assistance varies from very specific references about transfer of specialized knowledge to much more holistic conceptions of how people, systems, and communities can be supported in their change attempts. Crandall’s analysis of the “maturation” of technical assistance in the 1980s notes that a “multitude of activities bear the name technical assistance...”

Definitions abound – not because of an extreme diversity of opinion among those involved in technical assistance, but because of the different conditions and purposes technical assistance systems are designed to address.

(Crandall and Williams, 1981, p. 3)

A multitude of activities also do *not* bear the name technical assistance but appear to differ little from those that do. For example, in the Ford Foundation’s Gray Areas project in the 1960s, the expert consultants appointed by Paul Ylvisaker were to

“accompany” the process of program development, serving as what he called a “gadfly committee” to observe and generate new ideas. This eclectic group of experts included recognized scholars such as Peter Marris and Lloyd Ohlin, urban “practitioners” such as Chicago city planner Clifford Campbell, former mayors who shared Ylvisaker’s reform ideas, and journalists. With few marching orders, they conducted site visits, participated in staff meetings, and helped to plan special training programs and conferences that brought grantees together, and eventually served as advisors to the grantees as well as to the Foundation.

(O’Connor, 199 , p. 35)

The categories around which evaluations and analyses of technical assistance are organized are overlapping and often not comparable. They may focus on the process (adoption of innovation, transfer of knowledge, capacity building), the content (what knowledge, skills, connections?), or the people who are the technical assisters (agents and consultants).

Despite the lack of neat classifications, the definitions presented in the next section may help to represent the range of technical assistance efforts and analyses over the years.

Technical Assistance as the Provision of Expert Knowledge

Traditionally, the most commonly used definitions have been concerned with knowledge transmission. Yin and White saw technical assistance as “a means of using knowledge to improve the adoption and implementation of some type of educational practice or procedure” (Yin and White, 1984, p. 3). They include under this “broad policy definition” the categories that Turnbull cited in 1981, “diffusion,” “dissemination,” “knowledge utilization,” and “school improvement assistance” (*Ibid.*, p. 4). Hutchinson and Huberman (1993), looking at “knowledge use” in mathematics and science education for the National Science Foundation, agree with the definition of knowledge transfer,

with the expectation that the knowledge will be used conceptually (as learning, enlightenment, or the acquisition of new perspectives or attitudes) or instrumentally, (in the form of modified or new practices). There are, however, those who see dissemination as having other legitimate outcomes...[including] 1) increased awareness; 2) ability to make informed choices among alternatives; and 3) the exchange of information, materials or perspectives. In 1977, a conference of dissemination professionals, the Dissemination Analysis Group, defined dissemination as including these outcomes, as well as conceptual and instrumental use of new knowledge.

(Hutchinson and Huberman, 1993, p. 2)

Yin and White’s definition contained two additional criteria – that the process be built on two-way communication and that it be characterized by intensive rather than superficial interaction (1984, p. 4). This definition introduces another and fairly substantial body of work, which examines the role of the person doing the assisting. Numerous analyses focus on the “agent,” variously preceded by the modifiers “extension,” “linking,” “external,” or “change.” These analyses tend to center on the relationship between the assister and the change effort, and on how the role and actions of the linking agent affect the degree to which expert knowledge is used in the local situation (Hood, 1982; Crandall, 1981; Havelock, 1968; Lippitt, 1965).

Hood’s review of the studies of linking agents notes that “the diffusion/change literature offers ample evidence that new ideas and practices are spread most efficiently and used with greatest effect when their dissemination and utilization is facilitated by a *person* [italics added], or a team of persons, functioning as a linking agent who conveys knowledge from more distant sources¹ to ultimate users and assists users in applying that knowledge in their work” (Hood, 1982, p. 2.1).

Hood traces what he considers the first use of the term “linking agent” to Lippitt (1965), but asserts that “various related concepts such as ‘social engineer’ (Watson, 1945)” appear earlier in the literature (Hood, 1982, p. 2.1). Among these are the agricultural extension agents, who date back to the 1920s and have served as a model for effective

¹ Examples of “distant sources” in the studies Hood summarized included such initiatives as Title IV-C of the Elementary and Secondary Education Act of 1965, the National Diffusion Network, federally funded regional laboratories and state and local “educational improvement centers,” colleges and universities, and non-profit agencies.

external technical assisters since then, such as in the Pilot State Dissemination Project in the late 1960s and early 1970s. Beyond their roles as individual helpers, the extension agents are also noteworthy, says Havelock, because they are part of “linking agencies and linking systems,” in this case, the U.S. Department of Agriculture’s Cooperative Extension Service (CES). According to Hood, drawing on Havelock:

The CES provides information and information-based services to agricultural clients on the complete spectrum of on-the-farm needs. The cornerstone of this system is knowledge, much of it based on sound research and development or on experimental farm-tested and proven practices. But this knowledge is augmented by a variety of print and other media designed for specific agricultural users, preservice and inservice education of agricultural personnel, state demonstration projects, and technical assistance services. Extension specialists provide the human linkage with various specialized disciplinary or problem-oriented knowledge bases, and county agents provide linkage with local agricultural clients. Thus the CES offers a complex example of (a) linking agents, (b) linking agencies, and (c) and integrated linking system. CES examples have strongly influenced the conceptualization of educational linkage.

(Hood, 1982, p. 2.2)

Again and again the literature emphasizes that disembodied knowledge from outside sources is less likely to be of assistance to local change efforts. That local people need to the knowledge of how to do something is not in question. What seems to matter is the means through which the knowledge is provided, the source of the knowledge, the purpose for acquiring the knowledge, the capacity to create new knowledge from the old, and the degree to which the knowledge comes from or fits with local conditions, beliefs, and needs.

Technical Assistance as Supporting and Developing Local Strength

In the past decade, the notion of “building capacity” has gained increasing attention, although it is not well-defined or extensively studied in the literature. In their evaluation of the Nine-Site Program Improvement Initiative (in which regional and rural centers offered technical assistance to help Chapter I schools), Chimerene *et al.* noted that “assistance that nurtures self-reflection and critical thinking is largely uncharted territory – few providers and probably fewer federal officials know how to do it” (1994, p. viii). Turnbull *et al.* propose that

If the long-term goal of these [Regional Educational Laboratories] is capacity building, then one measure of success is not the completion of specific tasks or even the mastery of the skills to complete them; instead, the measure of success is whether the recipients and their organizations are able to use their new knowledge and skills to solve new problems in new settings

(Turnbull *et al.*, 1994, p. 71)

The elements cited so far, self-reflection, critical thinking, application of knowledge to new and different situations, are only a part of the evolving definition of technical assistance as capacity building. Also implied are connections to resources and power, the creation of networks and communities for action and support, and the development of knowledge to solve particular local problems.

THE TECHNICAL ASSISTANCE RELATIONSHIP: WHO DOES WHAT TO WHOM, FOR WHOM

There is a fairly large literature about the technical assistance relationship that looks at the behaviors and interactions between the traditional three partners: funder, client, and technical assister (e.g., Crandall and Williams, 1981; Crohn, 1984; Chimerene, 1994).

In the traditional view of the three-party relationship, large scale change efforts require significant resources, generally available only from an external funding source. The funding source typically has a vision, mission, and set of strategies for achieving that vision that are to be interpreted and implemented by the local actors. The framework may be more or less directive, and more or less the product of collaboration with the local effort. Technical assistance is contracted by the funder to provide help to the local effort to achieve the funders/change effort's vision.

In some ways, the Center for Community Change (CCC) Ford-funded Neighborhood and Family Initiative (NFI), illustrates perfectly the role of technical assister within this traditionally conceived three-party relationship. CCC served as technical assistance provider to the local sites and to the community foundations supporting the economic, social, and physical development of the neighborhoods. CCC had contact with all the participants in the project, and was involved in the development of the Initiative with the Ford Foundation.

The Center for Community Change holds a liminal position at the center of NFI, operating between the local actors and the national framers of the Initiative. To some degree, it acts on behalf of each of the actors. As an agent of the collaborative, it facilitates the process of decision-making and acts as a conduit for information and assistance. It also helps the community foundation and the project director in each site to sustain the collaborative process and to balance the demands of the collaborative and those of the community foundation. As an agent of the Ford Foundation, CCC keeps the guiding principles of NFI before the eyes of the local participants and documents the process as it unfolds.

(Chaskin, 1992, p. 34)

But, in fact, the CCI role was a complicated one, “necessarily difficult to balance as a whole.”

On the one hand, for example, the Center is to be available to the sites, at their request, to help them think through issues surrounding their particular goals. On the other hand, the Center has brought each site a model to guide group process and strategic planning, and this model is perceived to come directly from, or at least to meet with the approbation and represent the will of, the Ford Foundation. Questions necessarily arise: For whom does the Center work? What degree of discretion do sites have to use or refuse their services. If the sites seek other technical assistance, what role might the Center play in presenting options and providing means for its inclusion?

(Chaskin and Ogletree, 1993, p. 51)

In interviewing participants about the CCC role, Chaskin and Ogletree found that CCC staff were seen most often as “facilitators and providers of perspective.” There was some concern and confusion about CCC’s relationship to and direction from the Ford Foundation, and this led the evaluators to wonder if an alternative might be to separate the technical assistance functions into two parts, with CCC continuing to promote cross-site learning and connecting the local site collaboratives to national resources while Ford would provide more of the support/direction about the Initiative goals and charge. In essence, this would place the capacity building functions (connections, sharing learning) with CCC; the funder would more explicitly be in charge of monitoring to ensure that its vision (however meshed with that of the local effort) was being carried out.

These kinds of tensions seem the norm rather than the exception in these relationships. In describing the technical assistance efforts of the 1970s and 1980s, Crandall and Williams developed a chart of the relationship among the three parties. They discuss the elements of providing good technical assistance within this triangle, the design of the technical assistance system to guide the interaction among the parties, and the inherent conflicts. Tensions between the funding agency and the client system generally involve money and monitoring. Tension between the “assistance agency” and “client system may result when technical assistance is “‘imposed’ on clients, when clients, “many of whom are recognized leaders in their fields,” disagree with the technical assistance approach and have their own ideas of what kind of help and approaches they need (Crandall and Williams, 1981, p. 14).

The preceding paragraphs describe situations where the technical assistance is built in to the change effort by the funder. Sometimes the technical assister is selected by the funder, as in the Ford case; at other times, a list of approved “vendors” is provided, with the expectation that the resources for paying for the assistance will come either out of the grant or an additional allocation by the funder. In some cases, grantees are able to buy help according to their own estimations of needs and preferences. The research for this paper did not locate any studies that compared differences in the effectiveness or usefulness of the technical assistance to sources of funding, or voluntary or required use of assistance.

All the reviews talk about three parties in the relationship. With changes in the concept and approaches of evaluation, however, a fourth party may be joining the mix. The evaluator had always been seen as separate from and not affected by either the technical assistance or the change effort. But the Aspen Institute Roundtable on Evaluation, convened because of the difficulty of applying traditional methodologies to the study of comprehensive community initiatives, devised an evaluation method that blurs the distinction between technical assister and evaluator. Using a “theory of change” approach, the evaluator helps the local change agents to surface their underlying assumptions and frameworks. In that role, the evaluator becomes a facilitator of the strategic design process. Indeed, Pru Brown, who has been studying and writing about the evaluator’s changed role in comprehensive community initiatives, says that the evaluator 1) provides “technical assistance to initiatives regarding how to apply what is being learned to improving the implementation and impact of the initiative;” and 2) builds “the capacity of the initiative participants to design and institutionalize a self-assessment process” (Brown in Stone, 1996, p. 54). In the first function, the evaluator “becomes part of the dynamic of the initiative,” and if he or she attaches recommendations to that feedback, “the evaluator moves into a coach role.” In the second function, the evaluator “plays an educational or technical assistance role” (*Ibid.*, p. 55).

Whether the relationship is among three parties or four, it appears that what has rarely been discussed is how much power, status, resources, and autonomy each of the parties has in relation to the other, and the impact of that differential power on the effectiveness of the assistance, the quality of the relationship, and the success and sustainability of the change effort.

A SCHEMATIC OVERVIEW

With caveats and exceptions, we have arbitrarily divided modes of technical assistance into three categories, stopping short of the most recent efforts that focus on capacity building: the technology transfer approach; the medical approach, and the systems approach. They differ from one another in their theory of what will cause change and how, in how they construct the change and technical assistance effort, and in their assumptions and definitions of what constitutes “technical assistance.”

1. The technology transfer approach

Theory of change: The tools and knowledge exist, are not known or available at the local level and need to be transferred from external sources to the local situation. The acquisition of knowledge and new methods will bring about the desired change. Change strategies range from selected catalytic innovations (e.g., introduction of a new but powerful tool into a small scale society or poor community) to large scale models (e.g., national curriculum experiments) intended for replication.

Technical assistance assumptions: Outside experts know what local people need to do, come in, tell them how, and sometimes help them do it. Linkage is between people/systems and necessary knowledge.

2. The medical approach

Theory of change: Define the problem, understand the pathology of the problem through research and theory, treat the pathology and eradicate the problem

Dominant change strategies: Conduct extensive research about the problem, focus resources on the individual/community exhibiting the problem, and develop targeted interventions that address the problem and its underlying pathology. Change strategies range from one-to-one work with individuals (e.g., case management for pregnant teens, counseling for dropouts) to group services (e.g., teen pregnancy prevention and abstinence projects, dropout prevention programs) to multiple component models (e.g., improving teen health services, academic support with counseling, special curricula) but all focused around the “identified” problem (too early pregnancy, school leaving).

Technical assistance assumptions: External experts are needed to help local people define the problem and develop the treatment with knowledge gained from research.

3. The systems approach

Theory of change: Since the parts are interdependent, get the parts of a system or community to work together to address the issues. The coordination that occurs among representatives of social service and other agencies will transfer to the institutions themselves, and into policies and practices within and between institutions, resulting in a reduction in duplication of resources and smoother, more integrated services for the individuals who are being served.

Dominant strategies: Bring key players to the table, form coalitions and networks, restructure and coordinate services. The focus shifts away from a concept of the individual as a collection of isolated and discrete problems toward a more holistic idea of what a person or community needs to move forward. In some the shift includes an identification of assets and resources at the local or individual level that can be brought to bear on the issue at hand. Because these systems efforts generally require reallocation of responsibilities and resources, they are often initiated by funders or other external change agents who have some amount of neutrality and some resources to contribute.

Technical assistance assumptions: With the overarching goals often set by the funder, the local initiative lays out a plan for accomplishing those goals, and technical assisters help locals implement the plan, providing outside expertise as necessary.

The selective account presented below describes some of these change and technical efforts over time, and comments from evaluations and analyses about the relative

effectiveness of the variety of technical assistance strategies used in each of the three approaches.

THE TECHNOLOGY TRANSFER APPROACH

Tools for the Farmer

The early technical assistance work in this century can be seen as a product of modern technological developments, where both the tools to improve the conditions of living and the mode for sharing them became available to increasing portions of the population. Agriculture and medicine were prime beneficiaries of this technological development, and sharing these innovations was seen as a means of reducing poverty, starvation, and disease. The assumption was that better methods, efficient machines, and scientific thinking would be easily adopted and result in improved conditions, and that the West had the skills and resources to help the “underdeveloped” world improve itself.

Perhaps [this] phase of human affairs ...is to be characterized chiefly by its intensive awareness of the importance of the “grass roots” level of human action. In the United States in the 1920s and 1930s a sudden concern with this level of the common man was embodied in the programs of the Agricultural Extension Service. Here the problems of bringing the technological innovations of the crop and soil experts in the workaday life of farmers and ranchers brought the grass roots into focus. During the fifteen or twenty years before World War II, in industry as well as agriculture there was a convergence of interest in workers and farmers, in ordinary people, as acceptors of innovation, if not as innovators themselves. This interest resulted in recognition of a new dimension in technological development which influenced profoundly the “technical aid” programs of the post-World War II period.

(Spicer, in the 1965 introduction to his 1952 edition, pp. 8-9)

But despite the seeming respect for the local innovator, this model of technical assistance focused on bringing in outside expertise, tools, and methods. Research and analysis supported by the Carnegie Corporation of New York and the Russell Sage Foundation in the late 1940s and early 1950s examined cases where innovations were introduced by external agencies and assisters into communities around the world, some successfully and some not (Spicer, 1952). The examples raise many of the issues that are at the heart of technical assistance considerations today, including the relationship of the external agent to the local change effort, the attitude of the assistance effort toward the local community, the effects of contact between local and external cultures, the impact on the local ecology of non-local technology, and the match between the interests of the assisters and the interests of the local effort. They also highlight what distinguishes the technology transfer model: the assumption that new knowledge or new tools, developed from a superior base of experience and introduced through an outside expert, would transform and improve some aspect of the local community.

The classic story is the failure of an attempt to introduce a hybrid corn to Spanish American farmers in New Mexico. Spurred by a comparison against the corn production by farmers in the midwest, the agricultural extension agent responsible for the New Mexico area held discussions with the farmers in his jurisdiction about switching to the hybrid, and met with positive reactions. The agent's relations with the farmers were good: he spoke Spanish in their dialect and had been their agent for several years. He had discussed his suspicions with the farmers that the old "Indian corn" seed had degenerated, and invited the whole village to the meeting to consider the plan. He quickly turned the meeting over to the local leaders who

explained in their own words the plan for introducing hybrid corn. All those present seemed to agree that the new seed was the answer to many of their problems and that they would be well able to afford the price of the seed, once it was available locally.

By special arrangement with a grower of seed, the new hybrid was furnished in exchange for the old seed. A demonstration plot which clearly showed a tripled crop was set up near the village, with the result that 40 farmers planted the hybrid and each doubled his production the first year....The seed was producing admirably. It was within their means and seemed a very profitable innovation.

(Apodaca in Spicer, 1952, pp. 36-37)

The following year 60 out of the 84 farmers agreed to plant the corn. But the following year, the number dropped below the first year's effort, and continued to drop until only three farmers remained with the new corn. Three years after the start of the experiment, all the farmers had gone back to the Indian corn. After much questioning, the agent finally was able to learn that the farmers' wives had objected to its texture, color, or flavor. It made much more food for livestock, but did not make good tortillas. The analysis by Apodaca points out that the agent did much "right." He

moved slowly and carefully, and then only after a considerable period of observation and analysis of the specific local situation...A real need was felt for the new crop and he was able to induce farmers to formulate that need among themselves. He utilized local leadership and made no start until the people thoroughly understood what was to be done. He demonstrated procedure and results. It cannot be said that he ignored any of the well-trying, and often reiterated, rules of extension procedure.

He had paid attention to the relations between the agricultural technology and the environmental conditions, and to those between farming practices and the social organization of the community. He failed, however, to inquire into the food habits and their influence on the selection of crops...He learned that the interests and wishes of the village women had to be taken into account as an important

factor in the agricultural economy. Finally, he found that in the system of values of the community, corn quality was more important than corn quantity.

He failed also to make allowance for the customary courtesy of the people, who were not used to correcting “experts” or to expressing themselves freely in the presence of the latter. On reflection the agent realized that some of the farmers had had doubts about the introduction, but had not felt that they should discourage his efforts.

(Apodaca in Spicer, 1952, pp. 38-39)

In this case, there was a relationship of respect between the assister and the local people. It was clear to the farmers that the external agent had their interests at heart, and had worked with the village in a way that was likely to transfer both the knowledge and the capacity in a way that could be sustained. The problem was that what was obvious to the local farmer and the farmer’s wife was not obvious to the external expert, whose perspective was rooted in national comparisons and technologies useful to other, different communities. His goal was to provide the villages in his jurisdiction with a better and larger food supply, and he saw this innovation as a means to that end. The external agent did not assume that the existing system was in need of dramatic change, or that the local people were unable to recognize why and how an innovation might serve them; nor did his approach require a major transformation in the agricultural system. Rather, he was simply introducing a technological improvement that he expected would offer advantages to the existing economy.

And Knowledge for the Educator

The technical assistance efforts in education began because of a concern that American educational preparation was inadequate to deal with changing post-War World II conditions, and that the problem lay with local parochial systems that were resistant to change, an antiquated approach to curriculum, and a lack of know-how about how to raise the level and quality of education.

Prior to 1950, education in the United States had been purely a state and local affair; the annual budget of the Office of Education from 1945 to 1950 was between 30 and 40 million dollars. Events following World War II ushered in the era of federal participation in education, and made funds available for technical assistance. The Cold War and Sputnik propelled policymakers to translate their worries about international competition and national defense into better preparation of the scientific workforce and resources for conducting basic and applied scientific research. These worries converged with the concerns of the nation’s leading physicists about the lack of scientific thinking by the students they were teaching at top institutions like MIT and Harvard, and resulted in the establishment of The National Science Foundation (NSF) in 1956.

With the creation of the NSF, significant dollars were allocated for educational improvement, giving rise to the development of non-governmental institutions. PSSC

Physics became the first federally funded curriculum project, and in 1958, Educational Services Incorporated (ESI), the forerunner of Education Development Center, was established to administer this and other curriculum projects that grew out of PSSC. The passage of the Elementary and Secondary Education Act of 1965 firmly established the federal role in education; Title IV of that Act provided a major funding stream in support of educational innovation, along with support for technical assistance, including the creation of a network of regional laboratories to help in implementation of innovation. By 1967 the budget of the Office of Education was \$4 billion.

A class of “intermediary” organizations that specialized in research, development, and assistance was spawned by the availability of these federal and later philanthropic dollars. In education, they included such entities as the Academy for Educational Development and The Network, Inc., while Ford Foundation initiatives in community, job, and housing development later led to the establishment of organizations such as the Local Initiatives Support Corporation, Public/Private Ventures, and the Manpower Demonstration Research Corporation. The idea was that these groups could serve as catalysts, researchers, technical supporters, program developers, and conveners. An early president of EDC suggested that his organization’s purpose was to engender positive change within the entrenched local school systems by introducing the expertise available at a national level (EDC, 1967, p. 8).

The strategies around both innovation and assistance at that time assumed that the key was transfer of knowledge, and that knowledge was invented outside the school and local district. “The regnant model comprised a progression from the ‘laboratory’ to the educational ‘market place,’ in line with the models used to commercialize physical technology,” assert Hutchinson and Huberman (1993, p.1). They point to the influence of Havelock, from the Institute for Social Research at Michigan, who laid out the RDDE model – Research, Development of prototypes, Diffusion of the revised prototypes, and Evaluation of the project.

The model was extremely influential – it even figured in the creation of the U.S. Department of Education’s Laboratories and Centers – and it constituted a new starting point for a closer, more expeditious movement of research-based products to the universe of school practice.

(Hutchinson and Huberman, 1993, p. 2)

Large scale curriculum development and implementation projects were funded here and in Africa, especially in Mathematics and science (e.g., Elementary Science Study, Physical Sciences Study Committee, The African Primary Science Program, The African Primary Mathematics Program). Dissemination of these new research-based educational materials was

based on the simple conviction that if materials were good they would be used, and that their use would result in further diffusion...The task of improving schools was conceived to be a problem of getting such innovations adopted, and the prime locus of improvement was posited to be the classroom.

(Ibid., p. 2)

Transfer is Not Enough

But it became clear that even the best materials would sit on shelves, next to the words of even the smartest outside experts. Attention increasingly focused on the processes of implementation and dissemination.

Technical assistance strategies in the knowledge use approach were shifting in ways that placed more control in the hands of the local actors, toward “less centralized systems for sharing knowledge (Hutchinson and Huberman, 1993, p. 3 citing Rogers, 1986). New delivery systems for dissemination were created by the Office of/Department of Education. A particularly interesting knowledge transfer/dissemination model was the Pilot State Dissemination Project. “Dissemination agents” provided the human linkage between the distant knowledge and the local practice. They were modeled on the county extension agents of the Agricultural Extension Service who serve “as a personal communication link between researchers and their innovations (such as hybrid corn) and farmers” and Havelock’s (1969) model of “social linkage for dissemination of innovations” (Hutchinson and Huberman, 1993, p. 6). Sieber, Louis, and Metzger’s evaluation of the effort concluded that:

The project was successful. There was much more effective dissemination of information in the targeted counties and districts. Effective adoptions were quite clearly related to the level of interpersonal contact between the agent and the users. In fact, the dissemination agents often acted to provide not just needed information but extensive technical assistance, helping teachers and administrators to deal with and solve specific problems. But, given the labor intensive nature of PSDP, the costs were so great as to make this effective approach untenable as a national strategy. A rough estimate of the cost of maintaining an agent in each of 14,000 school districts today would be about \$1 billion per year.

(Ibid., p. 4)

The National Diffusion Network was an example of the federal attempt to elevate practice and make evaluated innovation models accessible, and its job was to disseminate curricula and programs that had been locally developed and had demonstrated results; a facilitator in each state provided help to local adopters. Emrick and Peterson, 1978, concluded that the NDN represents “one of the few highly successful Federal efforts to make wide-scale use of important developmental improvements in educational state-of-the-art” (in Hutchinson and Huberman, p.6),

In other words, NDN is a highly specialized version of the pilot State Dissemination Project, focused on connecting users with one specific set of innovations – programs that have been validated through a formal review process.

(Sashkin and Egermeier, 1993, p. 5)

“The NDN was created with the hope that a broader educational community would benefit from the initial investment in program development made by the U.S. department of Education...[and] included the most promising features from the previous experiments” (Hutchinson and Huberman, p. 6). A series of studies showed that NDN had favorable results (NDN, 1976; Emrick, 1977; Crandall et al, 1982; Huberman and Miles, 1984). Similarly, the Research and Development Utilization program, sponsored by the National Institute of Education, operated from 1976 to 1979 and tried to link the results of R &D with local school change efforts in several hundred schools in 20 states.

The program went well beyond the NDN and PSDP efforts in that extensive technical assistance was planned and provided at every step so that the dissemination and adoption process became more of a true problem-solving process than a simple adoption of innovation. Evaluating the outcomes, Louis and Rosenblum (1981) concluded that ‘a well-designed dissemination strategy which emphasizes the provision of high quality information, technical assistance, and small amounts of funds to local schools can be effective in promoting improvements in schools, in educational practice, and in benefits to students.

(Sashkin and Egermeier, 1993, p. 5)

Sashkin and Egermeir conclude from their analysis of the dissemination and knowledge use approach that

the more that dissemination consists of stand-alone information, the less likely it is that potential users will actually adopt innovations. In contrast, the more the dissemination effort is based on a variant of the Agricultural Extension Service model, with personal assistance and continuing support from a skilled and knowledgeable local agent, the more likely it is that the innovation will be used in some form and the use will be of long duration.

(1993, p. 8)

Demonstration Projects as a Means of Knowledge Transmission

While dissemination systems were invented to counter the lack of use of materials, the Office of Education mounted national, top-down demonstration projects to enable local school districts to implement change. The Rand Study of educational innovation (Berman and McLaughlin, 1978), conducted between 1973 and 1978, examined four large scale federal education programs of the US Office of Education, (Innovative Projects, Bilingual Projects, Vocational Education exemplary programs, and Right-to-Read). The Rand researchers collected data on 293 local projects funded by these four federal programs. The study found that while the federal programs stimulated local education agencies to undertake innovative projects, that participation did not insure

successful implementation, and successful implementation did not insure continuation of the project over time. Especially critical were the implementation strategies, which Berman and McLaughlin describe as “the local decisions and choices, explicit or implicit, on how to put the innovation into practice” (Berman and McLaughlin, 1978, p. vii).

The Rand study brought into question the dominant change strategy of the day (that the solutions to educational problems were available outside the local community, that local implementers could take what had been developed elsewhere and simply put it into practice, that implementation was a minor and straightforward aspect of the development and institutionalization process, and that failure to innovate was due to lack of vision, competence, or commitment on the part of teachers and local educators). The study also brought into question the accompanying approach to technical assistance.

The Rand study deemed most of the technical assistance strategies ineffective, especially those that did not respond to the needs and motivations of teachers or the basic conditions of school districts, including “outside consultants, packaged management approaches, [and] preimplementation training” (*Ibid.*, pp. vii-viii). Challenging the RDDE model and the assumptions about the federal role in innovation and technical assistance, the Rand study identified several “faulty” assumptions. First was that “the federal government would develop new technologies, provide incentives for their adoption, and introduce these technologies into school districts ... School districts were thought of as ‘black boxes’” with inputs and outputs (*Ibid.*, p. 36). But in fact, schools and districts were complex systems, and the black box construct ignored the social, political, and educational organization into which the innovation was introduced.

A second faulty assumption was the idea that any assistance, offered in any way, would be helpful. While school districts admittedly needed help,

The various federal programs generally have failed to provide relevant assistance or they have given the right assistance in the wrong way...The underlying problem in this approach to technical assistance resembles difficulties encountered in the technocratic approach: The innovation is thought of as a *product* rather than as a *process* requiring adaptation.

(*Ibid.*, p. 38)

The Rand study focused also on the faulty assumption that outside experts had answers that local communities would find useful and useable:

...Outside experts were typically ignored because their advice was too abstract, or their awareness of local problems was inadequate. Even when teachers saw them or other forms of outside assistance as relevant, the local staff tended to rely so heavily on these resources that they were unable to adapt the project to their own needs. In short, federally supported assistance efforts often were ineffective because they did not deal in an adaptive way with the concrete problems facing local staff. Insofar as assistance does not become an integrated component of the

implementation process, it cannot achieve the educational improvement that federal planners anticipate.

(Ibid., p. 38)

The Rand study's initial findings were duly noted throughout the educational change and assistance community. But it was the followup analysis ten years later (McLaughlin, 1989) that refocused attention on the key finding: "It is exceedingly difficult for policy to change practice...What matters most...are local capacity and will."

THE MEDICAL APPROACH

Although the lessons from the Rand study about local capacity were acknowledged, they were not reflected in new models of change or technical assistance until a number of years later. Instead, the finding that the large scale demonstration projects were not transforming systems despite their significant outlay of federal dollars moved funders toward smaller models and a greater emphasis on the problems being addressed. In analyzing the problem, targeted interventions could be developed, conserving resources and providing cost-effective and research-based solutions.

This approach rested on a logical, scientific method characteristic of medical diagnosis and treatment. Focused on the disease, the individual (and parts of the individual), not the system, became the target of treatment. The approach required the development of highly expert knowledge about the cause and treatment of the problem, and the transmission of that knowledge to the local people, who then become local experts about that particular problem. Expertise was fragmented.

A plethora of programs, often referred to as "categorical," was developed to deal with the social and contextual issues facing young people and communities, often characterized as "at-risk." Research about the problems – pregnancy, substance abuse, dropping out – drove program development.² Much expert knowledge about the pathology of the problem and the effectiveness of alternative treatments was generated, locating the control over the design of innovation outside of the local entity. Researchers and technical assisters from universities and intermediary organizations assumed central roles in defining both the problem and solution. But these developments left the local implementers at a distance and in the role of recipient of knowledge.

The forms that technical assistance took within the medical approach were all focused around providing expertise at all stages of the process, through consultants, trainers, researchers, and evaluators. Generally, these experts were located outside of the organization, and often outside the local community. National youth organizations, intermediary organizations, university-based institutes, and independent contractors

² In retrospect, many organizations say that they were forced into this "deficit model" by the funding streams and requirements of the RFPs, but that they still maintained a more holistic positive approach in their actual programming.

developed expertise that they provided to local initiatives. The success and usefulness of the help depended on many of the same factors that were identified as important among the agricultural extension agents.

Training became an increasing focus of technical assistance. The interventions were not self-executing, and required that professionals be well prepared with both the content knowledge and effective strategies for addressing the problem. At first, most of the training was implementation training: take the curriculum or activities that had been designed by outside experts and teach local implementers how to use them. The model at the outset was to send one or two staff members to a central training; the assumption most of the time was that the trained member would come back and teach her or his colleagues. In fact, that rarely happened, both because different skills and knowledge are needed for training others, and because there were rarely resources or attention dedicated to the “horizontal” spread of knowledge. Increasingly, training of trainers models became popular, laying the groundwork for building ongoing capacity at the local organization level.

Researchers fulfilled another set of technical assistance functions in this model. Their data, questions, hypotheses, theories, and findings provided local program people with the information they needed to respond to the RFP, write the proposal, and design a set of strategies that would logically address the insights offered by the research. But unless there was research capacity within the local setting, it was difficult for local developers to assess the quality of the research or its true applicability to the conditions of the community or group they served.

Near the end of the 1980s, it had become clear that the problem focus was not solving the issues of concern. Evaluations tended to show limited results, but worse, young people and poor communities were cast as collections of risk factors, deviations, and deficits, viewed in fragments according to which social problem was being addressed by that particular funding stream or piece of research. The technical assistance model was consistent with this approach, and probably both enriched and sustained it, with the positive result that it helped people build important bases of knowledge and respect for the value of research in informing practice; and the negative result that local efforts needed constant infusions of outside expertise, as the staff who had been trained left, or the next proposal was due, or a newly identified and difficult social problem created a new group in need of attention and specialized treatment.

THE SYSTEMS APPROACH

Coordinating Services

The categorical approach to funding and treating problems created disconnected systems. The community change initiatives and the technical assistance efforts of the systems approach were based on the idea that the pressing issue was coordination of the fragmented social services for youth and others in need. Although the problem focus remained in some cases, the locus of change shifted from the individual pathology to the

incompetencies within and especially between the systems that served the people in need. National foundations, intermediary organizations, and local agencies seized on this as a solution that stopped demonizing individuals and placed responsibility back on those whose job it was to provide support. Prominent funders, from the Annie E. Casey Foundation to the Kellogg Foundation, and work by distinguished researchers and change agents on the benefits of service coordination³ helped to move this approach into prominence.

The knowledge and assistance required by this approach was of a wholly different order from the medical approach. People had to learn to form coalitions, collaborate, share resources, redivide responsibility, and reconstruct systems in which the whole person or the whole community would be the focus of service. Skills in convening and restructuring were needed. Organizational development consultants rather than researchers assumed important roles as technical assistants, and publications by such groups as the W.T. Grant Commission on Work, Family, and Citizenship on building coalitions and collaborations were used in the development of proposals and projects. Sensitivity and effort were required to determine who were the right people to gather around the table. But relatively little thought was given at the outset to the difference between having an individual from an agency or community constituency at the table, and having a representative empowered to act on behalf of his or her organization or community. That requirement moved the kind of help that was needed from organization development skills to community organizing skills. The technical assistance requirements were changing.

Creating Systemic and Comprehensive Community Change

Although service coordination remained an important goal, the systems approach moved beyond simple coordination to an emphasis on changing all parts of a system – science and mathematics education, health care, institutions within a community – to improve the quality of services and education, to create healthier conditions and more supportive environments, and to address and redress the inequities between groups.

The Annie E. Casey Foundation was in the vanguard in this incarnation of community development with its *New Futures* program, which in turn influenced the funding and the design of comprehensive community initiatives throughout both the philanthropic and government funding sectors. Communities received multi-million dollar, multi-year grants to undertake significant change projects. Collaboratives made up of key stakeholders and power brokers in each of the constituent communities were the mechanism through which funders expected these changes would be designed and implemented. Like the Community Development Corporations that had been supported by government dollars and Ford Foundation grants from the 1960s on, the comprehensive

³ E.g., Lisbeth Schorr, who had conducted comprehensive analyses of social services and youth programs, and Harold Richman, the director of Chapin Hall who had created a system for tracking foster children throughout all the service systems with which they had to have contact in Illinois.

community change initiatives carried with them extensive technical assistance generally provided through selected intermediaries.

“Systemic Initiatives” of the National Science Foundation, a strategy for major educational reform, were established by the NSF in 1990. All parts of the educational system engaged in Mathematics, science, and technology education were to work together to raise the quality of instruction and improve outcomes for all students. The state level was the initial target for action, on the assumption that education is a state matter and that major policy and frameworks are most appropriately constructed here. From these Statewide Systemic Initiatives (SSIs), the NSF expanded next to the urban centers with the highest poverty rates (Urban Systemic Initiatives or USIs), and then to rural areas and smaller cities. The theory of change was that by marshaling resources and energy in a concerted fashion, with all constituents and stakeholders committed to reform, states and localities could improve education while reducing the gap in achievement and participation between groups.

At its inception, the technical assistance, which had initially been developed by EDC based on the Urban Mathematics Collaboratives model described in the next section, was aimed at building networks of support, knowledge, and action among and within the Statewide Systemic Initiatives. Like the Mathematics Collaboratives, the first premise of the technical assistance was that a good deal of knowledge and capacity was already resident within the systemic initiatives and needed to be tapped, enhanced, brought to the surface, and shared. A second premise was that there was certainly capacity that needed to be built, but that a) critical aspects of this capacity were not fully identified in this new and bold venture; and that b) at least some of this capacity would involve greater facility with the political and policymaking process, negotiation and compromise, connections to powerful individuals and institutions, relationships with unions, and a host of other skills not traditionally associated with the role of the educator.

The technical assistance relationship in the Systemic Initiatives, however, was inherently a difficult one, reflecting the tensions described earlier in this paper in the section about the three-party relationship. The assisters were beholden to both the funder and to the 25 state projects, which directly included several hundred people and indirectly thousands who were the recipients of help. Further, the NSF had taken a significant risk by allocating a majority of its education dollars toward this reform effort, and was answerable to Congress for demonstrating results. When the first technical assistance contract ended, the NSF changed the providers. The technical assistance model changed dramatically, controlled much more tightly by the funder, with many more limitations on what kind and choice of assistance was permissible with the resources allocated. The technical assistance model resembled again the knowledge transfer approaches of the 1970s.⁴

⁴ Fifteen years earlier, Crandall and Williams had described a similar phenomenon in relation to the federal Regional Laboratories: “The federal sponsor, under pressure from Congress and agency decisionmakers to spend funds where they will most significantly improve educational services, must defend technical assistance programs with little concrete evidence of effectiveness to counter skepticism. To obtain that evidence, the sponsor may seek to control the technical assistance project tightly, prescribing its function

In general, the systems approach moved the field beyond knowledge transfer. “We continue to view both the development of local capacity and the eventual transfer of authority and resources for technical assistance to be key to local ownership of the initiative,” state the Casey creators of New Futures (Casey, 1995, p. 16).

TOWARD CAPACITY BUILDING

Networks for Support and Action

The implication in the preceding quote is that power will be transferred from the funding agency to the local entity; the direction is still top down. An approach that distributes power horizontally rather than vertically is the formation of networks among those with common purposes or common affiliations. Unlike the coalition in the systems approach, the network is typically not responsible for reaching consensus and taking action as a body. Rather, it exists to provide support and a base for individual action as well as a means for disseminating change efficiently and building a base of political action by gathering numbers of participants around a shared vision.

The Urban Mathematics Collaboratives used networks to effective advantage. Started by The Ford Foundation in 1984, the Collaboratives were based on the assumption that improving mathematics education was contingent upon making it possible for teachers to stay in the forefront of pedagogical and curricular development. Locally based networks of mathematics teachers would enable participants to share information, gain access to the latest developments in Mathematics education, and provide mutual support for innovation and improvement. The first four Collaboratives held promise for effecting the kinds of changes envisioned. A replication effort was funded by Ford and directed by the Education Development Center. It focused on providing technical assistance to the new and existing Collaboratives. Giving both impetus and audience to this effort was the simultaneous development of national standards of Mathematics education by the National Council of Teachers of Mathematics (NCTM). The NCTM effort, like the Urban Mathematics Collaboratives, was led by teachers and teacher educators, and the NCTM Standards were developed through a complex process of networking.

UMC provides insight into a model of change and technical assistance that was different from the traditional approach to knowledge transfer, though it contained a great deal of knowledge exchange; different from the medical model that required expert research, though it rested on a high quality base of research about mathematics education; different from the systems change model of coordinating services, though its premise was that bringing mathematics teachers together would decrease their intellectual isolation and raise the quality of curriculum and teaching.

and activities at a level that defines its staff’s expertise and creativity. The technical assistance process can become overly mechanized and rigid” (1981, p. 13).

The technical assistance in the Urban Mathematics Collaboratives was not “technical,” said Brian Lord, the director of the effort at EDC. “Technical” implies expert knowledge, whereas the EDC role was conceived as strategic design work, more about planning, vision setting, and community building. “None of those falls under what people construe as TA,” he noted. Reflecting the emerging trend within education, EDC’s philosophy of technical assistance was grounded in a constructivist pedagogy.

In many ways, effective technical assistance is very much like good teaching – its aims are to create a dialogue that is both broad and deep and to introduce the client to a community of inquiry that supports ongoing development. The teacher is a facilitator of intellectual growth in others, not a repository of facts available for routine dissemination. Implicit in this view of teaching is the realignment of relationships between the teacher and learner—the decrease in “teaching as telling” and the elevation of open-ended inquiry...

Providing technical assistance is, at heart, a collective activity. The knowledge and skills that are necessary to help clients address complex problems are resident in no one individual, no one organization, no one network of ideas or experiences.

(EDC, 1992, pp. 2-3)

Effective technical assistance as defined by EDC included three related tasks:

- Identifying “natural communities,” rather than engineering groups based on assumed representativeness;
- Expanding those communities beyond local or district boundaries, since it is no longer [reasonable] to expect that all the necessary skills, knowledge, or connections reside in the immediate community;
- Making learning opportunities frequent, accessible, and compelling, preferably focused on real tasks.

(Lord, 1995)

The technical assisters to the Urban Mathematics Collaboratives promoted the notion that it was teachers who would and should “drive the engine of reform” (Lord, 1994). Early on, it was clear to EDC staff that teachers needed support in the form of negotiating skills and connections to power if they were to assume the role of innovators and change agents. The Collaboratives became a useful model for how external funders and technical assisters could help support locally based groups to transform practice in their own classrooms as well as to influence the field of mathematics education.

Networks of the kind pioneered by the Urban Mathematics Collaboratives offer a technical assistance strategy that is less top down than most of the traditional knowledge transfer models. They require facilitation and coordination, but focus more on encouraging exchange and support among peers than on one-way provision of knowledge. Electronic networks and on-line communities open up vast new possibilities

for this “distributed” technical assistance, especially when resources, time, and in-person contact are limited; research about these new media and their effects on building capacity are in early stages and may have much to offer to our understanding of effective technical assistance strategies.

What Matters Most Is Local Capacity And Will

The idea of building local capacity is not new, but the idea that this could be a dominant approach to technical assistance has only recently gained prominence. It accompanied a shift in the change strategies at the beginning of the 1990s, when a reaction against the categorical, problem-focus of the 1980s set in. Pittman and Cahill’s work (e.g., Pittman and Cahill, 1992; Pittman and Cahill, n.d.) was pivotal in transforming the deficit model and prevention approaches into the field of positive youth development. This transformation gave rise to a new way of thinking about young people not as collections of problems to be fixed, but as competent, powerful, and deserving people, entitled to the support they need to grow into healthy adults. Attention began to focus as well on the community and the systems in which people live and grow, and Kretzmann and McKnight’s work on the asset model of identifying and building on community resources (1987) became increasingly popular and was used to shape numerous proposals and programs.

Foundations and to a lesser degree government funding sources adopted this asset model in place of the medical model, and there was more support for respecting local knowledge and local capacity. The release of the Carnegie Council on Adolescent Development’s report *A Matter of Time* about what was available for young people in the non-school hours coincided with an expansion in funding and direction by the DeWitt Wallace-Reader’s Digest Fund. Multimillion dollar grants were made to major national youth organizations to build staff and organizational capacity to serve young people from disadvantaged communities. This line of capacity building was extended to schools, libraries, museums, and other institutions.

At its heart, building local capacity is about organizing communities of action, facilitating connections to power, and providing the tools and skills for inventing effective strategies for change. Thirty years ago, the Ford-Funded Mobilization for Youth acted on the premise that “the poor lacked not only money or will, but power; the first task of community action was therefore to enable them to assert themselves, by placing the means to reform in their own hands” (Marris and Rein, 1967, p. 50). It was not a simple change strategy to contemplate then when there was much greater optimism about the possibilities of eliminating poverty; it is even more daunting today in light of the recognition of the complexity and persistence of our societal inequities and injustices.

Assessing the Past and Crafting the Future of Technical Assistance

In reflecting on the change and technical assistance strategies described in this paper, a number of dimensions emerge that might be salient when constructing a relationship aimed at capacity building. All come back to the questions posed in the first bullet:

- Power, status, and control: Who has the power to determine what happens in the course of the change effort and the technical assistance process? Is there differential power and status attached to who has the resources, who has the knowledge, who is the helper, and who is being helped?
- Origin of the change effort and the technical assistance strategy: Who conceived, catalyzed, and supported these? What ownership do the developers continue to hold and exercise, and to what effect?
- Assessment of capacity: Who assesses existing capacity and what is needed to develop that capacity? How does the assessment determine and shape the technical assistance strategy?
- External expertise and local knowledge: How is local knowledge valued, identified, built upon, and used in the change and capacity building effort? Who determines what knowledge is needed that is not available locally? How is external expertise accessed and made available? Whose knowledge is respected and for what reasons? How do local and external knowledge combine? What are the effects of new and externally introduced knowledge on the local organization and community?
- Theory of change and underlying assumptions: How do each of the parties articulate how their activities will result in outcomes? What is the “attitude” of each of the parties toward the other and toward the implementation of the change effort?
- Perspective on technical assistance: How does each party define appropriate technical assistance? Who prevails or mediates when there is a difference in views?
- Culture contact: How do the cultures and status of the assister, local actor, and funder differ, and how are those differences dealt with?
- Cycle/variations in the relationship: Does/how does the technical assistance change as the change effort matures? For example, is there less external expertise needed, but more concentration on using internal sources of power and knowledge that create changes in policy, practice, and norms? Who decides if a change is needed, and at what point?
- Intangibles: What are the aspects and qualities of technical assistance that are more difficult to describe and often hard to replicate, for example, the intrinsic talent and sensitivity of the technical assister, the ability of the assister to use his or her own experience and connections to facilitate the building of capacity on the part of the local actors, or simply good “chemistry” among the partners?

In crafting new approaches to technical assistance that are based on building capacity, there is a great deal still to learn. More and expanded models are needed along with serious documentation and evaluation of process and impact, if we are really to

understand how to build local capacity in a way that is deep, lasting, and truly able to place the means to reform in the hands of those for whom the change will matter most.

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