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Cross-Disciplinarization

A New Talisman for Evaluation?

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Reflections on crossing disciplinary lines abound in the scientific community. Can cross-disciplinary approaches, with all their complexity and particularities, provide the way forward in the search for practical solutions to real-world problems? In this article, the author addresses how the debate on cross-disciplinarization pertains to the field of policy evaluation. Evaluation is appropriate terrain for such a discussion as this particular field of social science seeks to produce useful knowledge for both managers and policy makers. As such, the author offers a general account of the advantages and disadvantages of cross-disciplinary evaluation. Because evaluation requires close collaboration between individuals from different domains and backgrounds, the author further outlines the specific challenges that face the practitioner when conducting a cross-disciplinary evaluation.

Keywords: *discipline; cross-disciplinary evaluation; multidisciplinary; interdisciplinary; evaluation team; collaboration*

Knowledge plays a major role in contemporary social interaction. Applied to the study of public policy, the popular concept of the *knowledge society* means current policy must be evidence based (Hammersley, 2003). Although there are several ways to achieve this requisite, and evaluation is one of them, understanding the complexity of “the real” presents a major challenge for the evaluation community. Because of the sheer complexity of our world, the identification and explanation of all the myriad of possible effects resulting from governmental programs and policies require that evaluators employ a large range of expertise.

Simply put, coming to terms with the increasing intricacy of the interactions between social phenomena and public programs is undoubtedly a difficult task. Drawn by this challenge, evaluation attracts people from a variety of disciplinary fields, including economics, sociology, political science, and psychology. Evaluation offers these people many opportunities to apply their domain-specific knowledge. However, while seeking to improve on their assessment techniques, these monodisciplinary evaluators often become aware of certain limits or difficulties. These limits may prove insurmountable to the evaluator who remains confined to the practices of a single discipline. That being said, multidisciplinary training and team work are not sufficient to overcome these challenges. Even when individual evaluators

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benefit from extensive training in two fields, the task of comprehending a policy and its effects might simply be too complex for only one person. However, teamwork in evaluation is not a guarantee of success either. Although knowledge from each contributor may be assembled for the execution of a mandate, the team does not always benefit from this diversity, nor do individual members necessarily try to enrich their understanding through knowledge sharing. Instead, during the course of events, one particular approach may tend to overshadow or even dominate the others while results and recommendations may appear oriented toward this one monolithic perspective.

We believe that these situations of disciplinary isolation can be improved on. It might be preferable to conduct evaluation with the help of a plurality of markedly different perspectives, drawing simultaneously on the expertise of specialists in many different fields. It is possible to collect, obtain, and make available a wealth of valuable information by explicitly enabling evaluation team members from a number of disciplinary fields to express their concerns. To do so, it is essential to encourage a collaborative rather than a restrictive evaluation environment.

In a nutshell, the defining feature of the cross-disciplinary approach is a rapprochement (juxtaposition, integration, or fusion) between disciplines geared toward comprehending a complex phenomenon. Evaluation as a field should occupy a particularly important place in the debate over the merits of cross-disciplinization. This is because of the essentially interdisciplinary nature of this practice that assembles “persons with varying interests, potentially encompassing but not limited to the evaluation of programs, products, personnel, policy, performance, proposals, technology, research, theory, and even evaluation itself” (American Evaluation Association [AEA], 2004, p. 1). Evaluators are enriched by a variety of disciplinary backgrounds and methodological tools at their disposal, and as such, are predisposed to develop cross-disciplinary skills. This is almost a natural occurrence because an evaluator must inevitably combine discipline-specific knowledge with evaluation-specific skills. Under such conditions, “evaluation science has the practical quality of providing tools for enhancing other disciplines, as well as improving the effectiveness of professionals from a variety of fields” (Donaldson & Christie, 2006, p. 248). Above and beyond this natural tendency of evaluation to enable different forms of knowledge production, it is necessary to reflect more profoundly on the different factors at play in the development of a cross-disciplinary evaluation.

In this article, we first present our conceptual and analytical frameworks. This section discusses some important epistemological considerations on disciplinary status and the nature of cross-disciplinarity. We then apply this framework to evaluation and examine what cross-disciplinary evaluation looks like. Third, we highlight some of the main advantages and disadvantages of crossing disciplinary lines in the performance of evaluation. Our assessment relies on two types of literature: a more theoretically oriented strand discussing the pros and cons of cross-disciplinization for research in general and a more practically oriented strand that focuses on clients’ needs and evaluators’ experiences. Finally, we focus on some very practical aspects pertaining to the context of application of cross-disciplinary evaluation. It is worth stressing that we do not take sides with respect to the debate about the value of cross-disciplinarity. As we rather seek to foster reasoned choices from evaluators with respect to the worth of pursuing (or not) cross-disciplinary evaluation, we limit ourselves to the identification of dimensions of selection that need to be considered. We further discuss a few conditions of success, thus contributing to the development of preferred practices of cross-disciplinary team management.

Conceptual and Analytical Frameworks: Discipline and Cross-Disciplinarization

The rapprochement and even hybridization between disciplines, also referred to as cross-disciplinarization, have already been discussed for a long time in both academic research (Dykstra & van Wissen, 1999; Klein, 1990, 1996; Lattuca, 2001, 2003; Sommerville & Rapport, 2000; Stokols, 2006) and education (Davis, 1995; Lattuca, Voigt, & Fath, 2004; Nash et al., 2003). Specifically, cross-disciplinarization can take the form of multidisciplinary, interdisciplinary, and transdisciplinarity. We will discuss each in more detail in this section. In this article, apart from the case of direct citations, we will use the term *cross-disciplinarity* to refer to all of these forms of collaboration.

As soon as one mentions going “beyond the disciplines” (Kesteman, 2004, p. 90), the possibility of encountering different levels of conceptual entanglement immediately springs to mind. In the literature on this subject, the definitions of cross-disciplinarity are numerous and not always coherent or comparable, as is often the case with polysemantic terms. Faced with this barrage of ambiguous meaning, individual researchers must borrow elements that suit their purpose or include only the most convenient or the most generic (Sommerville, 1992). For others, “the absence of a working definition of interdisciplinary research limits the depth of dialogue on the topic” (Reich & Reich, 2006, p. 51).

We are conscious of these preliminary difficulties, but that is all the more reason to confront them to progress in our reflection on cross-disciplinarity in evaluation and subsequently explore the avenues of interest that open up. In this section, we do not plan to sketch out an exhaustive panorama of the current epistemological debate about the evolution of the term *discipline*. At the same time, however, it is almost self-evident that a more or less explicit conception of disciplinary nature must underlie any discussion of cross-disciplinarization. It is therefore useful to briefly review a few of the different meanings of this concept and justify the preferred conception before we proceed with our discussion of cross-disciplinarity.

The Development of Disciplines: A Process of Specialization and Boundary Drawing in Academia

The term *discipline*, used since the Middle Ages, signifies a way of ordering knowledge for teaching and learning. In his well-known work *The Structure of Scientific Revolutions*, Thomas Kuhn (1970) argues that scientific specialities are based on three characteristics—symbolic generalizations, models, and exemplars—which represent a scientific community’s defining of problems and solutions (Aram, 2004). The organization of scientific knowledge and knowledge production along disciplinary lines was maintained in the 19th century with the building of modern universities.

Scientific knowledge is divided among many disciplines, each with its own vocabulary, methods, and concepts. Disciplines create boundaries. They have become so disparate that it is sometimes difficult for members of one discipline to communicate with members of another. In some cases, one discipline has emerged from a previously existing set of disciplinary generalizations, theoretical models, and exemplary cases. Although the subsequent discipline might be broadly based on some of the assumptions of the original, each one also becomes rooted in specific beliefs, values, and perspectives. Disciplines thus give rise to subsequent disciplines through the process of specialization—a continuous process that tends to spawn subdiscipline on subdiscipline, often from the fertile ground of the same field.

The history of science teaches us that disciplines seem to be alive. In some cases, they are born, sometimes, after a split with a mother discipline. In others, they grow up in conjunction

with many other disciplines while some die off (Kesteman, 2004). Throughout the duration of their existence, most disciplines can be seen to follow a similar pattern of specialization and sometimes overspecialization as the number of subfields grows. Because this process implies a rejection of the current classifications of concepts and the dominant ways of organizing knowledge, it implies a reconceptualization of the boundaries between fields that may coincide with breakdown and destabilization.

Cross-Disciplinarization: Building Bridges Between Disciplines

Disciplinary status comes with some potential problems. As Edgar Morin (1994) argues, “the disciplinary boundary, with its specific language and concepts, will isolate the discipline from other disciplines and from the problems that mutually affect them” (p. 4). What is more, faced with the present explosion of knowledge, a certain amount of parsimony might be necessary. *Occam’s Razor* may need to be employed to deal with some redundancy across disciplines. Likewise, no single discipline can deal with all the complexity of a social phenomenon. Overcoming these challenges requires building bridges between disciplines. So how does knowledge transfer across disciplinary lines? Linkages across disciplinary divisions can be facilitated by transposition processes that allow researchers to address common problems in the lexicon of their own field.

Relations between disciplines are possible in a variety of complementary forms such as multidisciplinary, interdisciplinarity, and transdisciplinarity. Although these terms are somewhat vague and have multiple connotations, their common denominator is their potential value in encouraging exchange, interaction, and cooperation beyond disciplinary lines. A number of scholars have tried to clarify this issue by outlining the principal distinctions between the different conceptual degrees. To avoid a quarrel over semantics, we retain Patricia L. Rosenfield’s (1992) taxonomy, considered by many to be the most useful departure point (Fuqua, Stokols, Gress, Phillips, & Harvey, 2004; Maton, Perkins, Altman, et al., 2006; Maton, Perkins & Saegert, 2006; Stokols et al., 2003; Sussman, Stacy, Johnson, Pentz, & Robertson, 2004). Rosenfield lays out a simple three-level taxonomy of cross-disciplinary research. The first and most common approach to collaborative research is *multidisciplinary*; researchers operate in parallel but autonomously from different disciplinary-specific perspectives to address the same problem. The second level is *interdisciplinary*; researchers work together on a common problem, but still start from different disciplinary-specific bases. They use their specific techniques and skills to develop new insights reported in a discipline-by-discipline sequence. The third level, *transdisciplinarity*, is reached when “researchers work jointly using shared conceptual frameworks drawing together disciplinary-specific theories, concepts, and approaches to address a common problem” (Rosenfield, 1992, p. 1351). From these definitions, we can conclude that the transdisciplinary approach has the most ambitious aims because it creates the basis for a metadiscipline. A metadiscipline becomes necessary, according to Kesteman (2004), when one wishes to find “practical solutions to complex problems, build new knowledge that can be urgently applied, and take into account multiple points of view which might often be contradictory” (p. 101).

How is cross-disciplinarity distinct from the development of a new and separate discipline? The goals of the cross-disciplinary movement are ambitious; they allow for a break with the state of disciplinary isolation that is still too often present in a number of works (Dogan & Pahre, 1990), whereas the creation of a new discipline aims instead at drawing new borders. Thus, cross-disciplinarization is “a process of answering a question, solving a problem, or addressing a topic too broad or complex to be dealt with adequately by a single discipline or profession” (Klein & Newell, 1998, p. 3). In addition, it is “a new form of learning and problem-solving involving cooperation among different parts of society and academia to

meet the complex challenges of society” (Haberli et al., 2001, p. 7). Cross-disciplinization arises when a group of scholars decides that the exponential growth of knowledge makes too difficult the emergence of comprehensive worldviews. It involves the transfer of the methods of one discipline to another without any permanent exchange between the members of the disciplines concerned. It is thus a process of methodological and conceptual import–export, and indeed, in certain cases, it may engender the appearance of a new discipline or a mixed field of specialty. Cooperation among researchers within and between disciplines is a key factor in shifts between methods of knowledge production.

The Case of Evaluation: Reflections on Disciplinarity and Cross-Disciplinarity in a Cross-Breed Field

The Development of a New Field of Inquiry and Practice

A keen observer of the development of evaluation will notice that the practice has evolved considerably over time. To be concise, there is a general consensus that the purpose of evaluation is to judge the merit, worth, and significance of various evaluands: products, personnel, policies, and so on. A common task for program evaluators is, for instance, the identification and assessment of the impact of public policies. During the last 40 years, evaluation has drawn on the work of researchers from a variety of different disciplines (from psychology and sociology to economics), before gradually gaining status as an autonomous field in itself, albeit within and between these disciplines. But lively debate rages over the question of whether evaluation is, in fact, a separate discipline.¹ Based on the preceding discussion, it would appear natural that policy evaluation should take center stage in the “multi-trans-post-inter-disciplinarity” debate even considering that “evaluation as a discipline is a very recent affair” (Scriven, 1994, p. 147). The practice of evaluation could be explained by the logic of disciplinary development and specialization described previously. However, it is partially removed from this logic as it did not emerge from a single discipline in the first place. Indeed, since its conception, evaluation has borrowed its vocabulary, methods, and techniques from several disciplines at once. Nevertheless, as much as members of any other discipline, evaluators are concerned with the inevitable trend of internal specialization as well as the opposite: the permanent wish to cooperate with members of other fields.

To Be or Not to Be a Discipline

Is evaluation a discipline? Or is it simply a management tool that borrows its instruments from one or more distinct disciplines? This direct and provocative question seemingly raises many further issues and sometimes sparks heated discussion between researchers and expert evaluation practitioners. Even if evaluation is often compared with scientific research work, particularly in terms of methodological rigor, these two exercises should be considered distinct, despite the fact that they are sometimes undertaken by the same individuals.

Whether evaluation is a scientific discipline or a management practice, parties for and against stick to their guns with almost religious conviction. As well, the status and the importance attributed to evaluation vary greatly depending on one’s perspective on this debate. In this section, we do not claim to provide a definitive answer to the question. Rather we first present the clashing positions on the disciplinary status of evaluation. The principal point of contention in the debate is whether evaluation has become sufficiently distinct enough, epistemologically speaking, from the disciplinary fields from which it grew to enable it to claim its status as a separate discipline, or if on the contrary, these disciplinary fields remain strong

determinants, to momentarily borrow from Kuhnian terms, of the generalizations, models, and exemplars used to produce knowledge through evaluation. Drawing on a few explicit criteria related to disciplinary status, we then examine how the field of evaluation is more or less congruent with a formal and mature discipline. Even if evaluation shares a number of commonalities with disciplines, we contend that evaluation is perhaps not (yet) a full-fledged discipline.

A recent debate in *The Industrial-Organizational Psychologist* illustrates the controversy over the disciplinary status—or lack thereof—of evaluation. The exchange was initiated by E. Jane Davidson (2002), who affirms that evaluation is “a fully-fledged discipline” (p. 33). To make her case, she points to the methodological specificities developed by the profession and the particular skills required to conduct an evaluation. According to Davidson (2005), one of the great challenges in developing evaluation as a discipline is getting it recognized as being distinct from the various other disciplines from which it draws (p. 3). Davidson’s arguments are inspired by the work of Scriven (1994), who considers that the general discipline of evaluation gathers the sum of the activities aimed at appreciating the value or the quality of something (program, personnel, performance, product, proposal, policy, and even the evaluation itself by a meta-evaluation) (p. 148). According to Scriven, evaluation, like mathematics, is a transdiscipline. Transdisciplines are an elite group of disciplines supplying “essential tools for other disciplines, while retaining an autonomous structure and research effort of their own” (Scriven, 1993, p. 19). In response to Davidson, Robert Perloff (2003) argues that evaluation is not a discipline. He holds that “disciplines are systematic, coherent, founded more often than not on sound theory, and offered as programs in accredited colleges, universities, and professional schools” (p. 52). On the other hand, “evaluation is a helter-skelter mishmash, a stew of hit-or-miss procedures” (Perloff, 2003, p. 52).

The difficulty in coming to consensus on the status of evaluation as a discipline is closely related to the practice of evaluation and its mixed theoretical and methodological roots. It is a practice that involves collaboration between actors from various worlds—both university and administrative, public and private, internal and external—and these actors have multiple aims, such as the assessment of merit and worth, program and organizational improvement, oversight and compliance, and knowledge development (Mark, Henry, & Julnes, 2000). One can easily see the breadth of diversity among evaluators simply by observing the profiles of members of associations such as the AEA, the European Evaluation Society, as well as the many national evaluation bodies. Such diversity often means tension, and these tensions are reflected in codes of conduct, the professionalization process, and certification norms, as these must strive to reflect the richness and heterogeneity of the priorities of the members of these associations while maintaining some sort of professional unity.

As a consequence of its autonomization, evaluation tends to develop independently of the great methodological and epistemological debates that occur within the social sciences (Turok, 1991). This is also the point of view of two Canadian researchers who have contemplated this question employing criteria suggested by Kuhn (1962) and Lakatos (1970) to identify the principal components of a scientific discipline (Dubois & Marceau, 2005). These criteria include the link to the environment and the internal organization of knowledge, as well as the nature of the relations between theoretical knowledge and empirical elements. According to Dubois and Marceau, on top of being a discipline, evaluation “is currently at the third stage of development of the disciplines, that of scientific revolution, which suggests a change of the dominant bases of the discipline in the near future” (p. 2).

We contend that although evaluation is an autonomous field, it is also both a component of and is composed by a number of other disciplines. For some, the future of evaluation will be anchored in disciplinary foundations, but for a growing number of others, the outlook is transdisciplinary (Coryn & Hattie, 2006). At the same time, the fact that evaluation shares a

number of attributes with other full-fledged disciplines warrants the treatment of it as such. As we mentioned, since its origins, evaluators have borrowed the theoretical concepts and methodological instruments necessary to formulate high-quality recommendations from various academic disciplines. In this respect, Scriven (1994) maintains that the methodological specificity of evaluation constitutes the principal element that justifies the consideration of “a true discipline of evaluation” (p. 148).

With regard to evaluative practice, nobody denies the existence of a community of evaluators, as the many national and international societies in the field clearly indicate. This community is made up of actors with a wide variety of profiles related to their role in the evaluation cycle (client, evaluator, or stakeholder) or to their principal position in society (public administration, university, or private sector). By adding the multiple objectives that evaluations might strive to meet, one can easily see that such diversity makes the emergence of a disciplinary specificity to evaluation rather difficult. Consequently, it seems logical to insist on some concrete disciplinary anchoring on the part of evaluators for them to perform their task. By reproducing an institutional structure that itself undergoes transformations and is regularly called into question, the evaluators also reproduce the conditions favored by the somewhat more segmented academic sphere.

Evaluation thus appears to be increasingly independent as a discipline because of the process of professionalization in the practice (Morell, 1990; M. F. Smith, 2001). Before a thorough examination of cross-disciplinary evaluation and an assessment of its value, let us first briefly highlight some consequences of the specialization of evaluation toward gaining the status of a separate discipline. As mentioned previously, as a discipline becomes increasingly specialized, it tends to develop distinct semantics that could progressively create barriers between scholars (Pantazidou & Nair, 2001, p. 343). In short, evaluation left university laboratories for the private sphere of the consultancy market. Nevertheless, the specialization of evaluation as a distinct discipline has not been complete; an evaluator’s disciplinary background still remains important and guides his or her practice. Thus, not surprisingly, professional evaluation reflects the traditional disciplinary boundaries in academia. The principal virtue derived from the specialization of evaluation into a distinct discipline is that it enables us to identify and take into account its particularities. These particularities emerge from the need for a balance between an academic perspective (essentially for methodological reasons) and a pragmatic perspective—which is necessary to encourage the implementation of evaluation research by decision makers (Patton, 1997).

At present, however, this evolution has led to a specialization, even a hyperspecialization, which itself comports certain risks. The disciplinary boundary, with its unique language and concepts, has the potential to isolate evaluators from researchers in other fields and thus could prevent them from gaining insights into mutually shared concerns or problems. This disciplinary spirit is in danger of propagating an unhealthy air of exclusivity among evaluators that would forbid outside encroachment into their domain of expertise (Morin, 1994). With cross-disciplinary approaches currently blooming inside university walls, we think it is high time that the evaluation community paid attention to the potential this trend offers to address real-world problems.

Toward Cross-Disciplinarity in Evaluation

Evaluators have a varied toolbox at their disposal, a toolbox containing a plurality of concepts, multiple methods, multiple criteria, multiple perspectives, multiple audiences, and multiple interests (House, 1993). Such diversity implies that we must pay more attention to the appropriateness of the instruments and methods used in evaluation. In short, for evaluation

results, cross-disciplinarity “becomes the new ‘goal’ and linkages and collaborative ‘teams,’ the key forms of delivery” (Thorns, 2003, p. 690).

It would be illusory to consider that cross-disciplinary evaluation is the only valid form of evaluation. We are not aiming for standardization in the deployment of cross-disciplinary collaborative work. Rather we consider that it is according to the needs of an evaluation, the skills of evaluators, and the expectations of the client that the suitability of various elements presented below should be considered on a case-by-case basis. Consequently, the following discussion does not aim to promote or discourage recourse to this kind of exercise but, rather, to support an informed choice. For an evaluation to lend itself to a collaborative approach, one must first be certain that the use of theories and methods coming from different disciplinary fields is relevant, and thus would improve on the conclusions and recommendations that would be made based on only one discipline.

The Value of Cross-Disciplinary Evaluation

In this section, we pause and reflect on the value of conducting cross-disciplinary work. At first, it would seem that carrying out an evaluation of this nature implies particular skill sets and that it presents a certain number of difficulties to overcome. It is thus useful to ponder both the merits and challenges raised by crossing disciplines. The desire to cross the disciplines is not new. For example, after the World War II, at both Harvard and the University of Chicago, scholars sought to increase interdisciplinary research through an institutional approach (Wohl, 1955). At that time, several researchers weighed the advantages and disadvantages. To avoid reinventing the wheel, in this section, we will synthesize the principal arguments that were advanced at the time and that were reiterated by Chubin, Porter, Rossini, and Connolly (1986). This picture will be supplemented by relevant arguments pertaining to clients’ concerns and needs that we have found in evaluation literature.

An Indispensable Asset?

Many evaluators are conscious of the exclusive characteristics of the evaluative practice in terms of methodological rigor and utility of the results. Being that politics and evaluation are “intricately intertwined” (Palumbo, 1987, p. 43), it can be useful to surpass traditional academic barriers to offer decision makers advice and information that integrates different points of view. If we believe the proponents of cross-disciplinary approaches, this is the intrinsic merit of cross-disciplinarity. Beyond the slogans and declarations of intent, several advantages can plead in favor of a cross-disciplinary evaluation.

Validity of knowledge generated. First of all, cross-disciplinary evaluation allows a pooling of knowledge and projections specific to certain fields. Rather than regarding this approach as a negotiation on the borders, it is necessary to see the emergence of a practice that creates intersections. According to Blackwell (1955), cross-disciplinarity is useful in specific cases. These include cases in which one discipline cannot adequately address a problem; theoretically, the problem falls in a gray area between disciplines; different disciplines have contributed to progress on a problem; the integration of previously distinct conceptual frameworks appears necessary; the problem is of such magnitude that only team research could address it; people from relevant disciplines are ready and willing to collaborate; and finally “staff from relevant disciplines who meet criteria for multidisciplinary team research are available” (Blackwell, 1955, p. 370). Indeed, the specialization movement, described previously, generates a weakening and sometimes even a destruction of interfield communication (Spengler, 1950, p. 360) that we hold is possible to restore with the help of cross-disciplinary work.

By bringing together a group of experts around a common object of evaluation, cross-disciplinarity avoids unnecessary fragmentation of the object of analysis. The cross-sectorial meeting, with the purpose of examining the problems under different angles, can prove to be beneficial and should allow a synthesis that “can help stimulate outside-the-box thinking, and can hone skills for communicating across different functional areas and disciplines” (Davidson, 2002, p. 34). It thus avoids fragmentation according to the specific concerns of each disciplinary field. The realization of a single but multifaceted analysis allows for contrasting viewpoints but integrates these various perspectives. This, being based on the potential of each discipline, allows the development of broad integrative theories or supraconcepts (Blackwell, 1955, pp. 369–370).

Utility of findings. The second advantage partly flows from the first one. It appears that it is in terms of utility that the results of a cross-disciplinary analysis have the most potential. This evolution changes the validity criteria of a research finding. The usefulness of the knowledge for the client replaces the traditional peer-review assessment that was once the common way of checking validity: “The academy thus has the opportunity to break its myopic preoccupation with academic forms of knowledge” (Muller & Subotzky, 2001, p. 175). In effect, in addition to providing solutions to complex problems, it appears that the results produced by cross-disciplinary practices would seem more credible in the eyes of certain funders that often encourage collaboration among practitioners and academics (Hackett, 2000; Stark, 1995). Support for this point is offered by the observation that real-world problems require developing the capacity to cope with multiple perspectives. This is because “problems come in ‘layers’ that need to be separated and analysed, but solutions usually need to be comprehensive, addressing the problem as a system, not as pieces” (Davis, 1995, p. 39). The knowledge produced through a cross-disciplinary process takes into account a number of facets of the domain under examination, and this increases the precision of the results or conclusions and reinforces the acceptability and feasibility of the recommendations. In fact, a look at some examples of cross-disciplinary research reveals that these projects encourage researchers to get out of their laboratories and collaborate with policy implementers and allow policy makers to achieve their specific goals. Finally, the translation of findings into practical techniques may improve the stakeholders’ abilities and bring to bear alternative intervention perspectives (Fuqua et al., 2004; Maton, Perkins, & Saegert, 2006). Thus, recommendations for action derived from cross-disciplinary studies fit the utility criterion, which is for many evaluators the most important stick for measuring an evaluation’s worth (Patton, 1997; N. L. Smith, 1979).

Social capital and learning. Another aspect not to be overlooked is that cross-disciplinary work encourages the development of social capital between collaborators (researchers, evaluators, or practitioners) in the process of building a common framework, by sharing values and facing ongoing difficulties together (Fuqua et al., 2004; Morgan et al., 2003; Rosenfield, 1992; Stokols et al., 2003). This tends to create learning communities that encourage knowledge and skills transfer between stakeholders (Guthrie et al., 2006). On this point, systematic reviews of the literature on knowledge transfers in the health sector show that the factor most often cited as a determinant of the use of scientific knowledge is the interpersonal relations between researchers and users (Innvaer, Vist, Trommald, & Oxman, 2002; Lavis et al., 2005).

Satisfying client’s needs. It is worth stressing the fact that these “theoretical” arguments in favor of cross-disciplinarity find echo among evaluation consumers. As they are aware that “many research problems cannot easily be addressed from within the confines of particular disciplines” (Salter & Hearn, 1996, p. 3), most clients order an evaluation to gather comprehensive

findings and specific recommendations. Expectations of evaluations run high, and most evaluation clients worry little about the disciplinary boundaries and territorial debates that structure the academic world. Cross-disciplinarity responds to clients' growing needs for complex and widely focused policy advice and could enhance an evaluation's findings in several ways. The cross-disciplinary approach allows one to surpass sequential targets and better take into account an overall view that provides for integrated decision making at the heart of action, inspired by something resembling a holistic medical approach (Herman, Frank, Mowbray, Ribisl, & Davidson, 2000; Yoshikawa, 2006).

Benefits from disciplinary specialization. Last, the cross-disciplinary approach gets the best of both worlds as, in addition to the advantages mentioned above, it also benefits from disciplinary advances specific to each field. It is useful to note "that not all specialists are equally inclined to interdisciplinary cooperation, nor are they able to work in this way. Interdisciplinary cooperation is a task for a self-elected few" (Wohl, 1955, p. 376). For evaluators who are willing to take part in this exercise, the lessons and training of each discipline have the potential to enrich their manner of viewing the evaluand. It is thanks to a disciplinary rooting that the advances are made possible and feasible. We emphasize then, that recourse to a perspective that emphasizes multiplicity is obviously not an attempt to abolish disciplinary divisions. "We must consider that disciplines do not, like so many wild flowers, 'cross-fertilize' each other, but that clusters of scholars must be united in self-sustaining and satisfying social ties before creative collaborative work becomes possible" (p. 376). Indeed, "the occasion for interdisciplinary collaboration arises from the very fact of specialization and would be inconceivable without specialization" (p. 376). From the above reading, it is necessary to bear in mind that any discussion of the advantages of cross-disciplinary evaluation must be paired with the disadvantages that could result.

Or a Source of Insurmountable Problems?

Zero value-added in terms of validity of findings. One of the principal difficulties that results from a cross-disciplinary evaluation is the assumption that the meeting of various perspectives is superior to a monodisciplinary approach. The addition of perspectives is useless if it does not produce a better result. One should not see the realization of a cross-disciplinary evaluation, then, as an end in itself. Moreover, no one will be satisfied by "a steady dilution of specialization with no corresponding benefits in synthesis" (Sussman et al., 2004; Wohl, 1955, p. 379). The evaluator will be left with the impression that he or she has wasted his or her time, and the client will have wasted his or her money and will find himself or herself with inadequate conclusions and recommendations. Evaluators must ensure that they really understand the issues involved in the program they are evaluating before they make things too analytically complex (Johnson, 1990, p. 133).

Levelling down the quality of evaluation findings. The counterweight of the complementary nature, which we presented as one of the advantages of cross-disciplinarity, is without a doubt the risk of producing results that are centered on the lowest common denominator. Thus, there is a danger of "failure to use the most sophisticated and most powerful tools and concepts of each discipline when an attempt is made to merge the disciplines or equate them as to their value in a specific research undertaking" (Blackwell, 1955, p. 370). As "the commitment of time and energy into understanding other disciplines invariably detracts from the time and commitment put into maximizing one's own mastery of a single discipline" (Naiman, 1999, p. 293), some consider that cross-disciplinary approaches jeopardize the whole analytical

process. There is thus a risk of being unscientific (Caldwell, 1996). It is necessary, then, to avoid importing certain theories from a given discipline or to avoid overestimating the usefulness of new knowledge or theories before their validity has been rigorously tested to ensure validity. It could happen that complex thought and keen consideration gives way to a sort of trendy scientific and intellectual surfing, which, for its superficiality, rapidly undermines specialized knowledge (Hamel, 2005, p. 109).

Tensed intercourse between disciplines. Cross-disciplinary approaches could also run up against a type of disciplinary chauvinism from those who have a lower esteem for this way of working or a sort of disciplinary imperialism on the part of those who think that their discipline is superior to others (Younglove-Webb, Gray, Abdalla, & Thurow, 1999). There is still a belief that “no prestige is bestowed on those who work with other disciplines” (Rosenfield, 1992, p. 1355). This disciplinary imperialism is disjointed by cross-disciplinary work because this can potentially redefine new foundations and overturn traditional views to coalesce into new fields of research. Meanwhile, it must not be forgotten that cross-disciplinarization emerges in a context where disciplines conserve an essential role, because as Friedman (2001) suggests, “Can we have interdisciplinarity without some sense of disciplinary borders being crossed or transgressed?” (p. 506).

Disjunctions between levels of analysis. Another threat that weighs on this type of work is the risk of unintelligibility because of a quasitotal disjunction of the levels of analysis. Furthermore, the expected benefit from communication between dissociated domains of knowledge obliges one to sacrifice values to take “the facts” or values of another domain into account. This exceeds the semantic difficulties that can be rather easily overcome by paying close attention to sharing knowledge and developing a shared vocabulary. Here, we should not lose sight of the fact that despite all of the efforts made to “unify” understanding and develop useful common concepts, the disciplines remain dominant in the apprehension of problems, their formulation, and their resolution. In this case, “the multidisciplinary nature of the evaluation would isolate the theoretical and empirical debates in the traditional disciplines” (Dubois & Marceau, 2005, p. 25).

Feasibility and coordination problems. Last, we should not be led to believe that this approach is easier to put into action. On the contrary, if great organizational efforts are not made, cross-disciplinary evaluation will introduce new problems in terms of collaboration and motivation of the participants. There is a real risk of blockage that could affect the evaluative process considerably. Everyone knows that time is an invaluable resource when conducting evaluation, and it would thus be detrimental to waste it on problems of coordination. It is therefore important to pay more attention to the skills required for group work so that collaborative efforts can effectively bear fruit. Collaborative teamwork and cross-disciplinary integration thus require a preliminary reflection on the ways and means of execution so that collaboration is both workable and profitable (Morgan et al., 2003; Suarez-Balcazar et al., 2006).

The “Reality Check”: Cross-Disciplinary Evaluation in Practice

In this section, we will focus more closely on identifying the practical experiences and perspectives of evaluators to concretely identify the dimensions that must be taken into account when choosing (or not) to pursue cross-disciplinary evaluation. As such, we present

our synthesis of the views expressed on this theme in the flagship journal of the AEA, the *American Journal of Evaluation*, as well as that of the European Evaluation Society, *Evaluation: The International Journal of Theory, Research and Practice*.² Next, we turn to a brief examination of the (practical) conditions of success of cross-disciplinary evaluation. Although we do not take position in favor of cross-disciplinarity in evaluation per se, we argue on one hand that some contexts are more suitable than others in that regard, and on the other hand that some factors enhance the chances of maximizing the benefits that can be derived from a cross-disciplinary endeavor.

Basis for a Reasoned Choice With Respect to Crossing Disciplinary Borders

Even if some consider that “by necessity, evaluators are multidisciplinary professionals” (Bezzi, 2006, p. 59), that “evaluation research has always been interdisciplinary” (Berk, 1994, p. 262), or even that the future of evaluation will include multidisciplinary contributions and even the widespread adoption of a cross-disciplinary approach (Johnson, 1990; Rogers, 2001), it would be pure fantasy to claim that every evaluation must be cross-disciplinary. Before undertaking such a step, it is necessary to consider the following three dimensions so that a reasoned choice can be made: (a) the nature of the object or target of evaluation, (b) the state of scientific knowledge that can be mobilized, and (c) the feasibility of the process.

First of all, it is necessary to take into account the *nature of the object* or target to be evaluated to fully appreciate the suitability of resorting to a cross-disciplinary approach. From this point of view, it is not the size or the amplitude of the intervention (project, program, or policy) that is the determining criteria. The nature of the target refers more to the potential for innovation offered by new public interventions such as multidisciplinary programs, or by programs designed to address controversial issues. Under these conditions, the evaluator is asked to comprehend a larger number of aspects to develop a sophisticated and impartial understanding of targets with permeable boundaries. For example, in the case of policies addressing questions surrounding biotechnologies (such as genetically modified organisms or medically assisted procreation) or ethics (such as abortion and euthanasia) or both (stem-cell research), tensions can run so high between different interest groups that the evaluator cannot limit himself or herself to only one aspect (Caswell, 2000; Conover, 1984). To assure the validity and acceptability of his or her work, the evaluator must appeal to knowledge and understanding developed from different disciplinary points of view. Older programs or more routine policies might also be submitted to a cross-disciplinary evaluation if the evaluator wishes to enlarge the scope (World Health Organization, 2000) and go beyond what are traditionally considered as program outcomes (Schmid, 1997). Thus, by approaching programs from a new angle, a cross-disciplinary perspective allows for the identification of outcomes that until that point had been ignored. For example, by enlarging the angle of evaluation of political or social education programs in a historical perspective, the evaluator can address much larger issues such as the issues prominent in the 1960s like the civil rights movement or the Vietnam War (Bickel & Eichelberger, 1988). In this case, it is because the sector in question is so vast that the cross-disciplinary evaluation is an appropriate tool to explore new dimensions. So in cross-cultural contexts, beyond simply emphasizing multicultural or multinational issues, it might be useful for the evaluation to adopt a cross-disciplinary approach to avoid bias and misinterpretation (Hilliard, 1989).

The second dimension to consider before embarking on a cross-disciplinary evaluation concerns the *state of knowledge* in the domain to be evaluated. The domains with which an evaluation is concerned might be wide reaching and varied. They evolve constantly to adapt to the transformations that characterize interventions or to respond to new problems that

emerge in public opinion. On this point, the availability of scientific knowledge that the evaluator might be able to use greatly affects his or her work. In the first place, the evaluator must take stock of the resources available and the knowledge applicable to his or her work. This inventory permits him or her to identify the domains in which there exist proven and widely accepted results; it permits him or her to differentiate domains where there is a convergence between the results from those where there is less certainty, as well as to differentiate the sectors that have been the object of a number of analyses from those that are less advanced and where knowledge is still in construction. The cross-disciplinary evaluation is more useful in those domains where understanding is evolving or where new questions have emerged and substantial uncertainties are present. This case is exemplified by evaluations of large-scale environmental programs that require the integration of social science research for human-related concerns along with natural science expertise (Berk, 1994). Here, it is the perspective linked to innovation and imagination that takes precedence. Just as likely, it could happen that existing conceptions must be put into question to conceptually understand the phenomenon through a clearer lens (Hopson, 1999). This case is, for instance, exemplified by evaluation of public health policies that, when confronted with new challenges due specifically to demographic changes or rising costs, revealed the limits in the narrow policy prescriptions of the 1980s from discipline-derived solutions (Johnson, 1990). Cross-disciplinarity is also a tactic that could be useful for an evaluator confronted with unexpected or unforeseeable consequences (Morell, 2005). With all these cases, cross-disciplinary evaluation provides a response to a relevant challenge that has confronted evaluators for many years. This consists of adopting the perspective of the other, usually that of the policy maker; for “too often the questions researchers choose have a lot to do with their own discipline but too little to do with the adaptation of a program or an organization in a complex and competitive environment” (Harshbarger, 1984, pp. 26–27).

The first two dimensions provide a characterization of the evaluand and of the environment in which an evaluation is conducted. If this is conducive to the development of a cross-disciplinary approach, that is, if there is “a belief in the utility of meshing different kinds of professional knowledge and expertise to accomplish common goals” (Blalock, 1999, p. 145), it is important to pause to reflect on a third dimension that concerns the *feasibility of the plan* envisioned. It would be naive to think that this approach could be put to work without difficulty. The evaluator must consider individual and material factors before beginning the evaluation and keep them in mind throughout.

The individual factors concern the evaluator himself or herself and the individuals who will be involved in the process. This approach requires a highly skilled and open-minded evaluator. A necessary requisite is that the evaluator be capable of looking beyond past assumptions, ready to engage in a process that goes beyond their traditional comfort zones (Waller, 1992). The personal implication of the individuals in the cross-disciplinary evaluative process is important. Its success depends on the capacity to build links between individuals and construct bridges to transfer the conceptual understandings from one to another. These conceptions are often determined by the disciplinary formation of the individuals (Sefton, 2003). From the evaluation management perspective, the principal lesson is that, at first, cross-disciplinarity can induce discomfort and create some stress for individuals who are not familiar with the new dimensions of the game. The evaluator must be conscious of this and develop strategies to overcome stress or misunderstandings that could lead to tension. This means that the manager must identify the strengths of each group member and deploy each at the right moment and in synergistic combination with the skills of others. The benefits are generally worth the effort because at the conclusion, more often than not, participants report being satisfied with their involvement in the process and judge the resulting information to be

useful (Rockwell & Buck, 1995). The evaluator should contribute to making a climate that permits each team member to gain some understanding and appreciation into the insights and concerns of other disciplines.

These individual aspects have repercussions on the material factors involved in the evaluation as they require time and money. As Patricia Rogers (2001) so rightly notes, “this presents a challenge to the evaluation community, given that most money spent on evaluation is spent on conducting specific evaluations to answer specific evaluation questions, not working to develop interdisciplinary understandings” (p. 433). This obstacle can be overcome if the evaluator initiates a process to allow for the acquiring and sharing of information about specific issues among all the group members (Cowley & Grocott, 2007; Rudd, 1993), paying particular attention to the definition of the explanatory framework at the beginning of the evaluation (Mays, Wyke, & Evans, 2001; Owen, Cook, & Jones, 2005), and taking advantage of the advice and support of a steering committee (Smith, Preston, Buchanan, & Jordan, 1997). In addition, by making sure to anchor efforts within the needs of the different participants, that is, by emphasizing the added value of each approach, it is possible to obtain greater cooperation and greater return on investment. As we can see, cross-disciplinary evaluation offers much potential, but it demands greater attention and a more favorable disposition on the part of every participant. If these elements are not present, cross-disciplinary evaluation is useless. The danger is that this would invite criticism from detractors that could have negative repercussions for evaluation in general and the cross-disciplinary approach in particular.

Conditions of Success

Although a cross-disciplinary approach provides the evaluation team with important advantages—in terms of data collection or policy interpretation, for instance—attaining cross-disciplinary requirements in practice is not as simple as it might appear. Indeed, aside from the difficulties already inherent in any process of evaluation, the cross-disciplinary assessment must confront a number of additional challenges, including communication difficulties. In this section, we set down some practical conditions that must be present to ensure the success of a cross-disciplinary evaluation.

Discipline compatibility. Disciplinary anchoring is an indispensable starting point from which one can then transcend individual disciplinary perspectives and develop a new process of collaboration. It is therefore not sufficient to assemble a doctor, a psychologist, an urban planner, and a social scientist around a table and call it cross-disciplinary evaluation. The more disciplinary transcendence materializes, the more the evaluators advance through Rosenfield’s (1992) three degrees of cross-disciplinization as they become increasingly familiar with the concepts and analytical frameworks of their colleagues. It is at this point that disciplinary boundaries dissolve and a new knowledge terrain can be discovered. At this point, it becomes possible to pass from simply being partners to being interchangeable leaders (Rosenfield, 1992, p. 1347). Although the participants work together throughout most of the process, at some specific stages in an evaluation, they might proceed independently toward self-defined goals (Morgan et al., 2003; Suarez-Balcazar et al., 2006). Their involvement, therefore, may depend on the individual objectives they hope to achieve.

Leadership. The second set of conditions has to do with the coordination resulting from the collaborative nature of cross-disciplinary evaluation. Whereas the concept of *collaboration* is central to our definition of the cross-disciplinary evaluation, “collaborations do not ignite by spontaneous combustion, and they often are difficult to maintain without someone who is

responsible for initially bringing tinder, matches, and fuel and who then will tend the fire without necessarily fanning it" (McCall, Green, Groark, Strauss, & Farber, 1999, p. 209). Collaborative teamwork existed long before cross-disciplinarization and thus is not in itself a sufficient characteristic to suggest an engagement on the subject (Shinn, 2006). For example, questions related to team management become relevant to evaluation only as soon as a project involves a large or multisite program (Donaldson & Christie, 2006). A necessary (but unfortunately not sufficient) condition for success consists of the team's capacity for coordination, as well as their motivational dynamic. It is of the utmost importance to ensure that there is a pilot in the cockpit. The manager must ensure that the actions of each team member converge toward the realization of a high-quality evaluation. The search for complementarity is a constant concern. To this end, the manager must regularly ascertain that the final objectives are actually shared by the team members and that responsibility for achieving them is adequately distributed.

Good communication. As in collaborative action research, this sort of evaluation implies that evaluators "will communicate frequently and openly throughout the process to avoid possible conflicting perceptions and assumptions which result from their different positions in the field" (Oja & Smulyan, 1989, p. 13). To succeed, such a team should create a space that is designed to address communication challenges and create a common conceptual framework. Communication challenges often result from misunderstandings of discipline-specific jargon and terminology. Different disciplines may use different terms to refer to similar concepts, or the same terms may have different meanings from one discipline to the other. These must be identified and overcome (Rosenfield, 1992; Sussman et al., 2004). Comparing academic disciplines to different cultures and tribes, some scholars insist on the fact that the members of a team should be predisposed to this kind of "multicultural" working environment (Becher & Trowler, 2001). Team members must be open minded, sensitive to the dynamics inherent when cultures interact, willing to develop continuous self-reflection, and demonstrate sensitivity to how one's own actions affect others (Reich & Reich, 2006).

Common framework for understanding. Participation in a cross-disciplinary team may imply the management of people located in different organizations, regions, and sometimes countries. Although this aspect of collaborative work has many advantages in terms of social relations and the discovery of new perspectives, it is also much more vulnerable to particular communication difficulties. This is especially the case if there is a lack of strong coordination or adaptive capabilities among the team members. In reality, putting together an operational and effective cross-disciplinary team poses a real challenge as "teamwork is not magic, and simply 'getting along' or communicating information to one another does not constitute collaboration" (Hinojosa et al., 2001, p. 210). The objective pursued by cross-disciplinary collaboration therefore first requires a common framework of understanding (with structural and methodological equivalence) and then a common conceptual working model or framework. This task could require seminars to bring together people from various backgrounds that are willing to develop such a framework. It might be particularly useful to assemble optimistic and innovative individuals who are open to new perspectives, who demonstrate perseverance in the pursuit of collective goals, and who are capable of cultivating good will and cross-disciplinary tolerance (Fuqua et al., 2004; Maton, Perkins, & Saegert, 2006; Rosenfield, 1992; Younglove-Webb et al., 1999). Because it is not possible to plan for all eventualities at the outset of this type of work, often individuals have to quickly adapt to changing circumstances. Of course, this way of working might not be suitable for all individuals, especially those who are uncomfortable with the task of confronting unforeseen events. On this point, it

appears that the best evaluation specialists are those people who have the necessary skills to respond to these types of challenges. Unknowns inevitably seem to pop up in the conduct of most evaluations.

Material conditions. One must also satisfy the material conditions, that is, to anticipate and foresee the material conditions involved in collaboration, such as time, budgetary concerns, and geographic proximity. These elements might seem obvious, but it has been shown that administrative structures can be at the origin of delays and even insurmountable obstacles to the evaluation process (Fuqua et al., 2004).

Conclusion

Even if a large number of evaluators agree in principle on the virtues of the movement toward cross-disciplinarity because of the opportunities it provides to enrich their work, it is prudent to note that reality does not always match expectations. In reading the paragraphs above, we note that the cross-disciplinary approach offers real advantages along with some accompanying caveats. Enrichment, particularly through the cross-fertilization of disciplines, must be apprehended with understanding to avoid a cross-sterilization.

As we have seen, the cross-disciplinary approach suggests a number of benefits insofar as it provides a more cohesive and comprehensive picture of a phenomenon and enables the recommendation of practical measures. Nonetheless, a cross-disciplinary approach is not a panacea and may not be needed to address all evaluative questions (Maton, Perkins, & Saegert, 2006; Sussman et al., 2004). Those who decide to engage in this type of enterprise must understand why they do it, anticipate the practical implications, and foresee some of the drawbacks of this type of evaluation (Mason, 2004).

The development of cross-disciplinary teams must begin once evaluators really feel the need. As we have shown, the cross-disciplinary team as an innovation holds undeniable advantages in terms of the identification and interpretation of the effects of an intervention. Nevertheless, there is a price to pay: To put together the diverse expertise necessary for a successful cross-disciplinary evaluation involves a great deal of energy and willingness, especially in the early stages of team building. It is only on the basis of further accumulation of experience in this domain that evaluators will fully be able to take into account the virtues of the cross-disciplinary approach.

Cross-disciplinization thus appears to offer a new perspective on evaluation. Nevertheless, as in the domain of academic research, there are still too few systematic studies of these practices that would permit us to make more general reflections based on comprehensive case studies. To continue down this path, "one important approach is to publicize and carefully examine existing exemplars of such work. Learning about exemplary efforts (and the stories behind them) will help inspire us all and help persuade us of the value and feasibility of interdisciplinarity" (Maton, Perkins, & Saegert, 2006, p. 19). To reduce scepticism about this approach, we need to further explore the mechanisms of cross-disciplinary evaluation; we must probe how it might succeed and understand when it can fail so we can see how to improve this innovative way to cope with evaluation challenges.

In conclusion, just as it is often the case in evaluation, there is not only one manner in which to proceed. There is no single or best way open to the entire community of evaluators. Actually, "methods and parameters of evaluation are strongly influenced by the purpose of the exercise and the value they are brought to bear" (Turok, 1991, p. 1544). It is thus while seeking to answer contextually specific evaluative questions that the recourse to a cross-disciplinary

team proves to be useful, without it being necessary to imagine that only this form of evaluation is valid across all cases. Another route to be explored is that of the cross-disciplinary training (Nash et al., 2003) of evaluators to prepare “evaluators to conduct evaluation across the disciplines” (Stufflebeam, 2001, p. 446). Finally, regardless which way is privileged, we have maintained in this article that evaluators do after all need some solid traditional discipline-specific training.

Notes

1. Our aim is that this article itself will contribute to the constitution of a specific cross-disciplinary field of research within the evaluation community, as suggested by the appearance of the recent *Journal of MultiDisciplinary Evaluation*, edited by E. Jane Davidson and Michael Scriven.

2. We conducted a search using the terms *discipline* and *disciplinary* to which we added all the possible combinations of the prefixes *inter*, *trans*, *post*, *multi*, and *cross*. Such a procedure allowed us to be more systematic than would have been possible had we simply studied practical or technical evaluation reports of interventions employing a cross-disciplinary approach, as such documents are not always available and they usually elaborate little on the evaluative process.

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