Knowledge Programs and the Elusive Nature of Organizational Goals

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Abstract

The problem of how to create and transfer knowledge in organizations has given rise to a rich and stimulating discourse between and within organizational studies and practitioners. This paper focuses on a still relatively unexplored aspect of this issue. This is the dilemma of setting up goals for and evaluating the outcomes of programs designed to stimulate the creation and transfer of knowledge in corporations. It does this by reviewing a number of possible such goals and placing these against the backdrop of evaluation theory and specific epistemological concerns. It is argued that the evaluation of programs for the creation and transfer of knowledge is a complex task for a number of reasons, one of the most important of which is the constitutive character of knowledge. Given this, the paper recommends a constructivist and goal-free framework for knowledge program evaluation praxis. The paper concludes with a number of suggestions as to how this may be achieved.

Keywords: *Knowledge, goals, evaluation, theory of knowledge, programs*

Introduction

The advent of the knowledge society has led to the proposition that competence and knowledge are critical determining factors for successfully maintaining competitive advantage at the firm level (Grant, 1996; Cohen and Levinthal, 1990; Winter, 1987). Attempts to act on this suggestion have given rise to two independent but complementary discourses and practices. One is that of identifying, developing and exploiting core competencies and capabilities (Prahalad and Hamel, 1990;Grant, 1996; Foss and Knudson, 1996) with a related set of practices such as outsourcing and alliance management (Lam, 1997; Quinn, 2000; Reuer, 2000). The other is a series of technology based initiatives such as databases, decision support systems, file sharing; or as social technologies: meeting points, secondment and seminar programs, or again, as a combination of these things (Hellström, Kemlin and Malmquist, 2000; Bank, 1996; Swan, et. al. 1999). The latter usually come under the rubric of Knowledge Management (KM), or what we will interchangeably refer to as "knowledge (development) programs".

KM has now become one of the most cited organizational technologies for improving a company's "bottom-line" performance, agility and prospects for survival in the market. However, practitioners and academics alike are still dissatisfied with the progress of KM initiatives both at the level of praxis as well as theory. With respect to the latter, several workers have pointed to the fact that the status of KM is still unclear. Is it a meta-theory through which one may integrate extant strands of theory and practice? Or is it yet another management fashion which will fade once practitioners are offered a sexier alternative? (e.g. McAdam and McCreedy, 1999; Teece, 1998). Likewise, the link between issues of epistemology and issues of practice is still obscure. Thus, we are still engaged in trying to tease out answers to questions such as whether certain knowledge is socially constructed and embodied in practice and interpersonal communication, or whether it is unambiguously based in explicable. These discourses being widespread and extensive; how do we translate insights contained therein into practices which can help companies to develop and implement successful programs for the creation and transfer of knowledge?

The above list of questions is both a research agenda for the future as well as a concrete set of problems for present praxis. The area of activity where most,

if not all, of these issues are actualized in their most intense manifestation is that of evaluating KM tools and programs. From the perspective of evaluations, most knowledge program initiatives may be understood as having goals of some kind (which are not always clearly defined), and a plan for implementation. The presence of well articulated goals is a necessary condition for the establishment of performance measures and evaluation which would in turn make it possible to ascertain the success or failure of a given program in terms of impact and goal fulfillment. It should also be possible to use the program evaluation rationale for re-constructing the underlying program theory of the initiative, that is, the assumptions that such a program makes about the world should be deducible from the chain of its implementation. At the same time knowledge programs certainly make more complex assumptions, albeit hidden, about what are good outcomes than for example did the traditions of Business Process Re-engineering, Lean Manufacture and Total Quality Management.

Perhaps it is not strange that a program that is aimed at creating knowledge (presumably including knowledge about proper goals) poses quandaries for evaluation. The moving target quality of knowledge programs is one complication that has rarely been addressed, that is to say, when knowledge about knowledge and organizational practices increases, the basis for values change, and very likely also the goals for knowledge development. This is true in the sense of the Popperian paradox of knowledge growth: - if we knew the goals of knowledge production, we would already be there: one of the reasons that the creation of knowledge is truly an "unended quest" (Popper, 1976). When evaluating knowledge programs we are thus trying to hit a moving target, because when we get there, the goals may have changed due to what we have learnt in the process.

Among other things because of this peculiar quality of knowledge, the issue of "knowledge program outcomes" is more elusive and difficult to fathom than is the case in most other existing managerial technologies. At the same time knowledge programs promise solutions that these earlier improvement tools did not manage to provide, exactly because they took not the constitutive character of knowledge into account. The present paper aims at further elucidating this problematic issue in the evaluation of knowledge programs, by working from the tradition of program evaluation theory and certain key insights in the theory of

knowledge. From this problematique the paper aims to elaborate what an evaluation of knowledge programs that took these snags into account would look like. More concretely - what are the implications for how we fix on to the real impacts of a knowledge program, and what theory of knowledge allows us to claim for impacts, evaluate such impacts and finally design such programs?

In order to achieve this, the paper will first go through a number of different types of knowledge program evaluation issues. Secondly we will look at the theory and practice of program evaluation as related to the evaluation of knowledge programs. This section will be followed by an argument pertaining to restrictions and possibilities found in the theory of knowledge. Finally a number of suggestions will be presented as how to construct an evaluation model that is sensitive to the nature of the constitutive impacts of knowledge programs.

Evaluation of knowledge programs

The present take on knowledge program evaluation approaches owes to Scriven's (1967) distinction between formative evaluations, where the focus is on the actual processes of a program, and summative evaluations, where the focus is on the final product. It is important however to remember that when dealing with management issues, both processes and products are outcomes in a strict sense. However difficult to separate the two, in many cases the distinction is more fruitful to make if one takes the assumed "stability" of the outcome measure as the critical characteristic. In this sense, Intellectual Capital measurements and other "bottom line" factors seem more stable with respect to outcomes, while for instance knowledge needs and communication patterns signify the more processual aspects akin to formative evaluation.

Summative knowledge program evaluations (Intellectual Capital and "bottom-line" models, etc.)

Business leaders who invest in knowledge programs are often promised (and regularly request) so called bottom-line results, i.e. outcomes directly associated with higher returns on invested capital. Since any direct connection between knowledge and money is difficult to make, even in theory, proxy measures have been developed which attempt to emulate the "matter-of-factness" of the bottom-line. Most notably these may be found in the tradition of measuring so called

Intellectual Capital (IC) and its relation to a firm's book value (cf. Edvinsson, 1997). The particular outcomes of interest when evaluating knowledge program impacts *qua* IC, reside in the combination of a firm's intangible corporate assets, which are often seen as some combination of its structural capital and its human capital (OECD, 1999: 3). In other words, IC is a melange of items such as staff competencies, ability to exploit such competencies, customer relationships, brand equity, goodwill and patents: all assumed to be more or less tangible proxies for knowledge outcomes of knowledge programs. In this sense, a high IC-score is very clearly an expected outcome of good knowledge program practice.

There are many frameworks for synthesizing these factors into evaluation scores, some of the more notable being the Intangible Asset Monitor (Sveiby, 1997), The Balanced Scorecard (Kaplan and Norton, 1992), and the Skandia Value Scheme (Edvinsson, 1997). These frameworks seem to share a broad classification metaphor of human, customer and structural capital. Some of the difference between the models lies in the relative importance that is given to measuring employee value and customer value, but all of them, and especially the Balanced Scorecard, directly links these types of metrics to financial factors. One may say that such frameworks are typical bottom-line in their orientation. The Intangible Asset Monitor tends to regard people as the main carrier of IC outcomes and to see increased capabilities in this respect as major intermediate goals in profit generation. Other measures try to take into account process variables, albeit mainly in terms of fixed IC outcomes of processes, which have already taken place. For instance, the Intangible Asset Monitor fixates on scores for growth, renewal, stability and efficiency, while the Balanced Scorecard focuses on customer learning and growth perspectives.

Low (2000) developed a model for measuring "critical categories for non-financial performance", which consists of an index of a number of "value drivers", namely: innovation, quality, customer relations, management capabilities, alliances, technology, brand value, employee relations and environmental and community issues. These are then operationalized into measures derived from a diversity of sources, e.g. industry reports, expert judgments, governments filings, etc., which together combine in a single measure called the Value Creation Index (VCI). The VCI is finally standardized for different kinds of markets (e.g. manufacture and e-commerce), by adjusting it

according to the correlation coefficient between the market value and the VCI-value. This way the VCI weights each category differently according to its correlation with the market value, which (a) lends it a higher degree of accuracy, and (b) makes it possible to create evaluative bottom-line performance criteria according to branch.

Formative knowledge program evaluations (process models, etc.)

The IC measures above offer knowledge programs a kind of anchorage in the bottom-line which may lend strength to the credibility of the overall field of KM. This is particularly true in so far as the success of ventures are often reported in hard facts and figures, these being difficult to disregard (albeit not to refute). Unfortunately, because they do not clearly connect to the actual processes of knowledge creation, they may unwittingly provide decision makers with the wrong reasons for scrapping or supporting a knowledge program. Parallel to the IC tradition, another practice of knowledge program evaluation seeks to focus on process variables further away from the bottom-line, as proxies for successful program impacts. One way of looking at it is that while the IC-measures consider how successful the organization and its individuals have been at attaining their goals (Evangelidis, 1983), the "formative" process measures are more about establishing what people who are engaged in creating knowledge and innovations should be doing in the organization, and then see whether they are doing it or not. In the spirit of this mindset, a company such as Andersen Consulting is now developing measures for "Return on Vision" rather than Return on Investment. Those who embrace formative or process alternatives will argue that this type of outcome, apart from telling us more about how successful the knowledge program was, is also a better device through which the organization can focus and articulate long-term accountability (Sharman, 1993).

Liebowitz and Suen (2000) have been among the most recent to try to update the IC-metrics towards more process oriented alternatives. Some of their points of measurement include:

- The number of new colleagues or partnerships spawned in the organization (as a proxy for transfer of tacit knowledge). Processes such as "knowledge fairs" may contribute to such outcomes.
- The reuse rate of knowledge which is frequently accessed/reused.

- The number of new ideas that generates innovative products or services.
- The number of lessons learnt and best-practices applied to create value-added.
- The number of "serious" anecdotes presented about the value of the organization's knowledge management systems.
- The number of "apprentices" that seniors mentor, and the success of these apprentices as they mature in the organization.
- Interactions with academicians, consultants and other advisors.

These factors are clearly process impacts in the sense that they are both outcomes and facilitators of further production of knowledge. What is measured in this regard then is not so much performance itself as certain critical attributes of performance (Euske, 1984); not so much the hard outcomes of performance, as the critical precursors to such outcomes.

Further to this reasoning, advocates of the process outcome perspective have argued that measuring all the impacts associated with IC is too impractical (Edvinsson and Malone lists 113 measures in their "Universal Intellectual Capital Report"); rather what matters is the vital signs which quantify how well activities within a process or the outputs of a process achieve a specified goal (Hronec, 1993). Further to this, Turney (1992) has suggested that evaluations of processes such as knowledge programs must clearly communicate how an activity is meeting the needs of internal and external customers.

The processes that stimulate knowledge production, and which are themselves outcomes, may be evaluated in their own right. However it is also critical to ask from a knowledge program, in what respect it affects the drivers which underpin soft performance measures such as teamwork, communication, adaptation of other processes and tools (Ahmed, Lim and Zairi, 1999). This recursive stance begs the question of such processes being outcomes in a hard sense, since a change in drivers would likely change the whole aim of the KM-exercise as well as its preferred outcomes. In many ways the summative (hard) and the formative (soft) measures differ qualitatively from each other, however, they still retain similar "outcome quality" characteristics. The logic of outcomes in evaluation exercises poses special problems and implications that will be probed in the succeeding section of this paper.

Goals and outcomes

There is an inherent ambiguity in the concept of organizational objectives or goals; most clearly so with respect to the desirability of particular goals, but also as to the meaning of the term itself. With regard to the former, goals may be official and operational, stated or non-stated (Perrow, 1961). Goals may be held by single top-management individuals and by the dominant interest coalition of an organization (Hill, 1969), and further by organizational members as well as non-members: generally in terms of shared visions, or individually in terms of desired personal outcomes (Thompson, 1967).
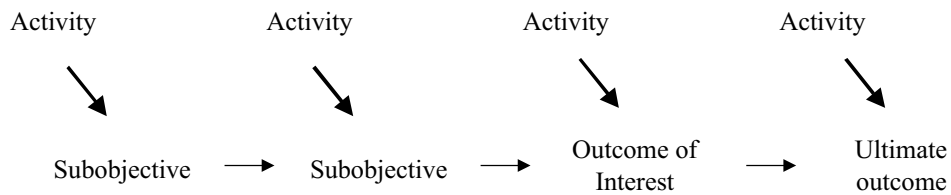
As to the meaning of the term, one may note that regardless of organizational level or official legitimacy, two critical, conceptual elements of goals figure prominently in the literature (e.g. Euske, 1984): (1) a goal represents a future attainment, and (2) a goal represents an allocation of present efforts or commitments. With respect to *outcomes* it may be noted that the first criteria designates the goal as the "attainment" of a particular outcome. Outcomes in general, however, are not dependent on the realization of purpose, which is intimately tied to goals. Rather, outcomes may be unforeseen, unrecognized, or as we will discuss further on, constructed post-hoc by the application of a new mental framework.

The distinction between outcomes and goals is critical to this paper, and will be elaborated later. However, for the present it is necessary to understand how the roles of outcomes and goals hang together in the evaluation and implementation of program activities. Program evaluation, at least in the public sector, usually tends to focus on goals or objectives first, and then on the activities which are intended to achieve them (Lincoln & Guba, 1985). These activities are aimed at establishing some process, or create a chain of events, that will eventually lead to goal fulfillment. The constitutive components of such a chain of events may be referred to as "sub-objectives". The chain of events, or outcomes, is usually referred to as an outcome line (Mohr, 1995). It is often necessary to establish such an outcome-line in order to properly implement and eventually evaluate a program.

The literature typically holds the outcome-line's constituent sub-goals and goals to be *necessary* stepping points for realizing a program, where the

outcomes are observed results of targeted program activities. What is critical here is that in order to evaluate a program, one must choose a particular goal, or what is called an "outcome of interest", at which point the program is deemed a success, and beyond which the evaluation pays no further attention. With respect to intended outcomes, any outcome may be chosen as the outcome of interest. The figure below represents a schematic structure of such an outcome line.

Figure 1. An outcome-line (adapted from Mohr, 1995).

| Activity	Activity	Activity	Activity
↘	↘	↘	↘
Subobjective →	Subobjective →	Outcome of Interest →	Ultimate outcome

The outcome of interest begs the question of another important aspect of establishing program goals for evaluation, namely "the problem" at hand. In the public sector it is usually understood that it is quite unnecessary to have a program if there is no problem (if it isn't broke, don't fix it). In the corporate world however, problems may have to do with improving processes and achieving goals simply for the sake of "staying in the race" (if it isn't broke, fix it anyway). Whether a public or a private organization, the problem should correspond directly to the outcome of interest, by which we mean that reaching this outcome will solve the problem (at least partially). To further elucidate, one may refer to the problem as "the counterfactual". This usage signifies that what would have been true without the (successful) program in place, is considered the problem (i.e. the counterfactual). Expected program outcomes may of course be both beneficial and detrimental, but it is only to the beneficial ones that the term "problem" is relevant.

Having recognized this, it is also important to note that an outcome-line is not "theoretically innocent" in any way. Apart from being a chain of desired/projected/revealed sub-outcomes on the way to the outcome of interest, it is also a program theory about complex cause and effect relationships, boiled down to a simple line (Jacob and Hellström, 1998; Rossi and Freeman, 1993). The chain of events reconstructs a theory about how the world works, which may be right or wrong. Take for example the implementation of a wiretapping

program, which in this case starts with the wiretapping activity and holds the outcome of interest to be a reduction in the number of addicts.

Figure 2: Outcome-line for a wiretapping program (adapted from Mohr, 1995)
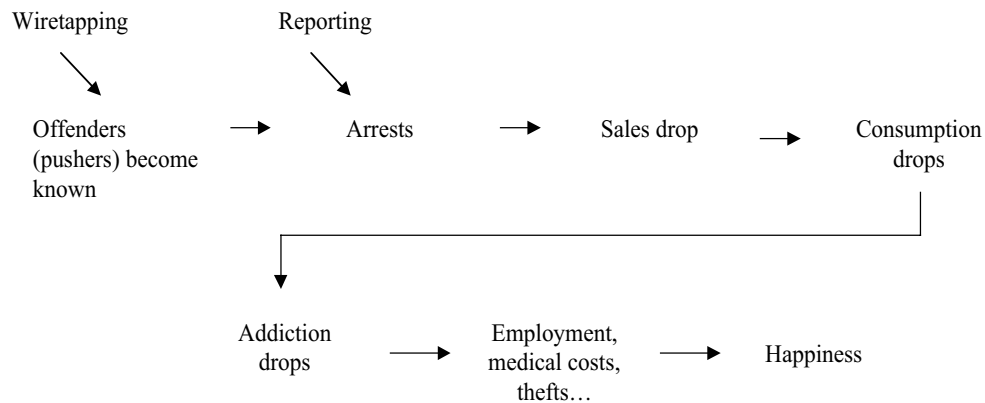
In this outcome-line we see how certain activities performed by program personnel, in this case the police, are assumed to affect outcomes, and how a chain of outcomes eventually affect the outcome of interest. Note how the causal program theory reconstructed here is comprised of set of hypotheses, which are yet to be tested. A sample of some of these includes:

a. That arrests of suspected drug pushers will lead to drop in sales (this hypothesis makes assumptions about drug distribution among the pushers as well as about the influx of new pushers to the area);

b. That a drop in consumption of a certain drug will create a drop in addiction (this hypothesis begs the question of the nature of addiction, i.e. that one type of addiction cannot be replaced by another).

The complexity of the full chain of reasoning involved here suggest that subsequent failure of the program may occur (1) because steps in the line prior to the outcome of interest have been omitted, (2) because the outcome of interest was badly chosen (placed too early or too late in the outcome-line, or in the end, (3) because the outcome line represents a theory about the world which is (at least partly) wrong.

As we will see, in the case of programs aimed at the development of knowledge, the correctness of the reconstructed theory may not be the essential problem. Empirically grounded theorizing about how individuals and groups develop knowledge, and seek, disseminate and use information is commonplace in the behavioral and social science literature. Our problem is rather on the level

of how to establish "the problem" and "the counterfactual" for knowledge growth. Every program must have a counterfactual, and/or an outcome of interest in order for it to be evaluated. At the same time knowledge carries certain characteristics which presumably makes this hard to achieve.

The nature of knowledge development

Can programs aimed at knowledge development be treated the same as other types of programs in terms of goal fulfillment, and if not, what are the implications for evaluation of such programs? This section of the paper aims at answering the first part of this question by addressing certain key aspects of the theory of knowledge, which pertains to the goal of knowledge development. Polanyi's classic differentiation of knowledge into tacit and explicit has fired the imagination of KM theorists and practitioners, few of these discussions however reflect on the conservatism of Polanyi's conception of tacit knowledge growth as being inherently teleological, or goal directed (e.g. Polanyi, 1966). The assumptions that Polanyi makes about the tacit dimension of knowledge production as possessing finality, or always being purposefully directed towards a goal, does not translate well to the aspects of knowledge production that we have identified as critical in organizational life. In this regard we will focus our attention on two philosophers who have contributed a less finalized conception of how knowledge and goals relate: Karl Popper and Charles Taylor.

Karl Popper on knowledge and predictions

Popper (1956; 1972) was one of the more notable epistemologists to point to the inescapable weakness of predictions which involves humans and societies. The core of his argument builds on the simple insight that people act on the basis of knowledge about their surroundings. Knowledge is not static but is constantly changing, for good or for worse, and so is society. The implications for social predictions, goal setting in terms of knowledge or in terms of future history; i.e. what Popper refers to as *historicism*, is elaborated in the following way (Popper, 1956: vi-vii):

> (1) The course of human history is strongly influenced by the growth of human
>   knowledge. (The truth of this premise must be admitted even by those who see in

our ideas, including scientific ideas, merely by-products of material developments of some kind or the other.)

(2) We cannot predict, by rational or scientific methods, the future growth of our scientific knowledge.

(3) We cannot, therefore, predict the future course of human history.

(4) This means that we have to reject the possibility of a theoretical history […] There can be no […] theory of historical development serving as a basis for historical prediction.

(5) The fundamental aim of historicist methods is therefore misconceived, and historicism collapses.

The first two premises state that the growth of knowledge and the development of history are closely interlinked. This is based on the premise that human action, which is directed at the world, is founded on beliefs and intentions which are part of as well as affected by knowledge. It also holds true from the point of view of the empiricist dictum that knowledge changes when humans come into contact with physical reality. The second premise of Popper's is equally critical to our understanding of knowledge and goals. The limits to predicting knowledge development are founded on the assumption that we cannot foresee today what we will find out tomorrow, and if we knew the outcomes and contents of knowledge development, why engage in it in the first place? Would we not then already have that knowledge?

Popper's third and fourth premises have a strong bearing on how we assume that knowledge will shape organizations. They basically imply that given the above, we cannot predict specific organizational technologies, fundamental changes in our ways of seeing things like goals, changes or directions etc., or even seriously set up such goals (cf. the impossibility of *creating a theoretical history*). The conception of a theoretical or projected history is interesting in this regard, since it resides, not in actual past events, but in the realm of conceptually driven intentions and creations. Humans create the future history of the organization conceptually, and Popper's anti-historicist arguments include also the ability to set up goals for and establish the content of future creative actions. Acts of creation are intimately tied to identity (e.g. Koestler, 1964), and our notion of how changes in knowledge shape our goals and destabilize projected outcomes must therefore be dealt with on the level of identity, because identity has a strong influence on how organizations develop and change (de Vries &

Miller, 1987; Stapley, 1996). Charles Taylor provides this particular piece of the puzzle of knowledge and goals.

Charles Taylor on knowledge and identity

Taylor's (1985) central argument draws on hermeneutic philosophy, and holds that predictions or the reflexive following through of set goals in social communities are impossible because humans are, in his words, "self interpreting and self defining animals". This means that the way humans are, is dependent on what they perceive themselves to be, and that these perceptions are intimately tied to the *concepts* that they use to describe themselves, their relations and their goals. If goals and ideas of a community are to be understood, we must have knowledge of the concepts which that community uses to describe and change itself. Taylor thereby draws a similar conclusion as Popper, i.e. that we cannot assume that individuals and groups will not change goals and prospects in radical ways as they conceive of new ways of defining their identity on the basis of conceptual transformations.

This argument has implications for how we understand goal setting, both in terms of desired future states, as well as with respect to the knowledge necessary to get there. The argument lets us infer that those concepts that we may need to describe an organization years from now are not available to us, because they have not yet been created. The implication that Taylor draws from this is that for social circumstances, it is easier to understand the rationality of events after they have occurred, than to predict them in the future, or even to argue their future relevance. Although individuals in a society or in an organization may have a strong feeling that something is about to happen or, as it were, *should happen*, they cannot describe this something in any meaningful way, because they lack at that time the relevant descriptive or evaluative concepts or combination of concepts. We must try to extricate what this means for the second part of the question which introduced this section, namely - What are the implications for the evaluation of programs aimed at developing knowledge?

Towards a new conception: Should knowledge programs have goals?

Given our discussion with reference to the goals of knowledge (development) programs; the concept of outcomes in evaluation theory; and the epistemological

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critique of goal-directed knowledge production as argued by Popper and Taylor –
how should we regard the prospects of setting up goals for such programs? It is
apparent that the problem of knowledge and goals presents us with something of
a paradox, both in terms of how to evaluate such programs, but also in terms of
their implementation. This paradox is real, and the many failures to get value out
of these programs, to implement them satisfactorily and evaluate them (when it
all happens) suggest that the paradox also has practical consequences; at least
what might be called "epiphenomenal". This section of the paper will fill the
function of synthesis discussion, where we will bring theory back to praxis and
see how certain concrete ways of working with knowledge programs may
sensitize practitioners to the impasse posed. In what follows we will point to a
family of evaluative practices that might be useful for knowledge programs given
their inherent characteristics, and in so doing we will propose a type of
evaluation/implementation paradigm for gradually constructing these programs as
part of organizational practice. In order to deepen the understanding of what
knowledge programs may demand in terms of evaluative practices we will utilize
the concept of goal-free evaluation, originally proposed by Michael Scriven
(1973), as well as Jonassen's (1992) among others concept of constructivist
learning assessment. The reader should be aware that we shall be allowing
ourselves some degree of conceptual liberty in taking these authors' ideas further
along the path towards resolving "our" particular problem.

Goal-free knowledge development and evaluation
As we saw in the first part of this paper, the key success criterion in a goal-
oriented approach to evaluation is whether the program has reached its goals. The
key judgment in such an evaluation will be about the congruence between
performance of the program and the goal. In goal-free evaluation on the other
hand, the focus is on actual outcomes rather than on goals, and the evaluator
intentionally keeps away from sharing insights with the seller, implementer, or
process owner of the program, but goes directly to staff. This way the likelihood
is increased that unanticipated consequences, good or bad, will be noted.

The logic behind this type of evaluator agnosticism *vis a vis* goals is that a
program may have as many types of benefits as there are potential receivers of
the program, perspectives may change over time, as does needs, while program

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goals remain constant. Practically, the evaluator is not told the purpose of the program, but rather conducts the evaluation as an open-ended study of what the program is actually doing (rather than what it is trying to do). If the program is achieving stated goals, and if this is still a reasonable outcome, then that will show up, and if it does not, it is irrelevant. Instead, the merit of the program will be determined by relating it to the significant needs of the organization and its members.

The overarching organizing principle for this type of evaluation is the program's search for outcomes and effects, rather than a focus on the goals. The goal-free approach appropriately proceeds in two steps. First the evaluator should try to establish all the various forms of impact that the program has resulted in, and to "un-focus" and disperse attention as widely as possible to as many stakeholders and categories of impacts as possible. Next the evaluator should establish the various forms of needs that exists, and be open to the possibility that needs of sub-groups and individuals may on the surface run counter to the official goals of the organization, yet not contradict these official goals in terms of their practical impacts. If any outcomes are shown to contribute to particular needs, then the part of the program "responsible" for those outcomes may be deemed critical in some respect and warrant further attention, e.g. a discussion on how furthering these needs may promote beneficiary organizational outcomes.

One way of establishing such benefits, or what we propose to call *organizational success*, may well be to ascertain some standards of merit from comparative cases of other well performing organizations within the field. Lacking such touching stones it may be fruitful to view organizational success broadly as the feeling or general perception of the organizational members that things are going the right way, or at least the optimal way. Nobody knows what the precursors to "bottom-line" success are, but in the end it is probably going to be a feeling of "doing it right".

It is important here to remember the elusive nature of "the counterfactual" as discussed earlier. With the program in place the organization may have had problems meeting its bottom-line goals, but without it the organization might not even be in existence. In rapidly changing environments, goals are mere mirages; one fulfill them and one might still founder. Organizational success is therefore premised on those elusive factors which explain what makes the organization

tick, and sustain a profitable existence. Such factors are most likely related to an ethereal feeling of intellectual and emotional satisfaction in the co-worker as it pertains to his/her efforts.

Constructivist assessment and evaluation of knowledge programs

Work done in the field of constructivist learning and assessment (Williams, 1996; Cronin, 1997), which deals with the problem of evaluating learning without goals, may tell us something more about how an evaluation model for organizational knowledge development should be constructed. Approaching our problem from the disciplinary perspective of pedagogy, we find that the dilemma of evaluating learning without goals forces us to return to and seriously acknowledge what we have termed the "constitutive character of knowledge". From a constructivist learning perspective, this concept pertains to the fact that knowledge growth and change feeds a type of meta-cognition about what forms of knowledge are worth pursuing. Knowledge is, in this way of looking at it, constitutive of itself. The task of identifying relevant knowledge products should then be replaced by a focus on process outcomes that reflects the intellectual processes embedded in knowledge production. A focus on these processes may very well reveal "constitutive outcomes" brought on by the program, e.g. the creation of new goals, new methods for creating and acquiring knowledge, new problems (and problem solving techniques), etc.

Evaluation of this type may be said to be *intrinsic* to the underlying assumptions of knowledge put forward earlier, in that it focuses on the meta-cognitive awareness of an organization, which in turn facilitates a preparedness for shifts in perspective such as those involved in radical technology jumps. Several ways of conducting such constructivist evaluations have been suggested (e.g. Jonassen, 1991). Process goals should be set in terms of how "good examples" of knowledge development and use are found, elucidated and argued around. Such examples could be part of the organizational folklore, and could stand either directly in relation with program activities or be on [nt]-order distance from such activities. They could furthermore be debated in a reference group comprised of a variety of different stakeholders and experts who have the ability to take a broad view of the program and its outcomes.

Outcomes such as these may be concrete or abstractions, but should have in common that they, upon examination, have the ability to demonstrate a point about the organizational knowledge structure and development. This point does not necessarily have to be inherent to the outcome as it stands, but could be secondary effects of such outcomes. A question which the members of the reference group may find fruitful to pose in this regard is: - how many products or unexpected outcomes of learning are we able to speculate upon, or mentally generate, given the story or the proposed outcome that was presented to us?

Conclusion

We will finally conclude with a number of practical suggestions that might be gleaned from the arguments outlined above about goals and knowledge development programs. The suggestions are meant for a hypothesized evaluator of such a program.

- Look for explanations of the positive, unintended or latent effects of a knowledge development program. Feedback these effects to the organization and to program personnel. The outcomes of a program should be used to improve or gradually build the *program theory* which is suggested by the actual impacts of the program, and on a meta-cognitive level, this knowledge should suggest a *program-epistemology*: i.e. a theory of knowledge suggested by the organizational response to the program. Such epistemology may be used as an input into constructing a variety of programs in different areas of organizational conduct.

- Look for fringe "unintended target groups" of the program, that is, organizational actors, groups or individuals, who have become recipients of the program apart from the outspoken receivers. Such individuals may have another story to tell about the program than those who knew they were targeted all along. The existence of these unintended actors may also suggest pathways of the program's influence which will aid in unraveling such hidden latent functions as those suggested in the previous point. It may also suggest organizational needs which were not fully addressed in the previous formulation of the program.

- Ask from the program: - To what degree do prior goals stand up in the light of new needs or revealed merits? Do they change radically? If so, why? This

question is an important input into understanding the *plasticity* of the organization in terms of its relation to its programs. The plasticity reveals how demanding a change in the meta-cognitive apparatus will be, and ultimately how to weight the import of such observed changes.

- Ask: - Do espoused and desired goals vary strongly in time and/or organizational location? This question draws on the argument about the *co-production of the organization and its knowledge*. Irrespective of whether a given organization has knowledge programs, it will vary its meta-cognition in time and space. As a result, evaluation and implementation of such programs must take this fact into account in order to reconstruct a realistic and pluralistic program-epistemology.

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