Robert Jay Glickman

The impact of terminological instability on the efficacy of project implementation

The year was 1900. The dawn of a new century. The place was Uruguay. And when the readers of Montevideo's weekly *La Alborada* (The Dawn) opened one of the June issues, they found an article by A. Gustavo Cornejo entitled "El léxico del modernismo' (The lexicon of Modernism).[1] That article would amaze today's students of transdisciplinarity because of its currency.

Cosmopolitanism, it said, was the tendency of the age. In the environment of that time, words no longer had a distinct "nationality," but, altered by the attire and manners of foreign climes, they tended to acquire new and expanded meanings. For Cornejo, that terminological instability was a most positive trend, a "beautiful transfiguring of ideas" which reflected a massive development of the mind and greatly enriched the language of literature.

Such terminological instability stemmed from the fact that the era from 1885 to 1900 was one of rapid scientific, industrial, and intellectual progress, and in it everything seemed to be moving, changing, growing. The linguistic phenomena Cornejo described, however, were not unique. One hundred years earlier—an epoch

of movement, change, and growth in the newly forming United States—Thomas Paine asserted: "We see with other eyes; we hear with other ears; and think with other thoughts, than those we formerly used".[2] And in 1813, Thomas Jefferson called attention to the fact that "New circumstances . . . call for new words, new phrases, and for the transfer of old words to new objects." [3]

Although we cannot disagree with the observations of Paine, Jefferson, and Cornejo, we must point out that what those men of letters considered both necessary and beneficial could be seen as counter-productive by the scientist, the physician, and the constitutional lawyer. Members of these and similar groups would have highlighted the comment of Patrick Henry, who, as a vigorous advocate of states rights, opposed ratification of the U.S. federal Constitution. His objection rested on a matter of language and how it would affect his state of Virginia. "The question turns," he declared, "on that poor little thing—the expression . . . ."[4] And the *expression* in this case would have a profound impact on the product of implementation: either a nation with a strong central government or one in which each state would have the right to act in a sovereign and independent manner.

One "poor little thing" we'd like to address here is the expression *knowledge*. A great deal has been said

about what types of knowledge exist: inherited, experiential, intuitive, scientific, evidence-based, target, formal, informal, craft, indigenous, local, global, push, pull . . . . Enough to make the head spin![5]

Whatever the case, knowledge is what we are convinced is true. In this regard, it is the basis of our actions and our inaction. Our conviction is derived from sources such as personal experience, members of our group, respected outside authorities, and our own mental application or experimentation. No matter where knowledge comes from, however, we tend to want to share it. We do this through a process of *knowledge emission*—literally "the sending out" of knowledge.[6]

Other terms that are commonly used are Knowledge *Transfer*, Knowledge *Translation*, Knowledge *Management*, and Knowledge *Mobilization*. Although these terms are often treated as equivalents, they do not really mean the same thing. Let us look at the first of these, knowledge *transfer*.

Knowledge Transfer. Knowledge transfer is nothing new. It was a reality in our remote Darwinian past. It is a reality today. However, the first academic examination of the phenomenon was undertaken in 1943 with an assessment of agricultural practices in the United States, and intense scientific studies of it began

only in the 1970s. Those studies focused primarily on descriptions of how knowledge was shared among groups with similar interests. Since then, the field of inquiry has branched out from descriptions to complex analyses of the nature of knowledge and its role in our lives.

This evolution has greatly enriched our understanding of all aspects of knowledge. However, the fragmentation of vocabulary associated with the term has affected our collective understanding of how different disciplines approach the creation, transfer, reception, implementation, evaluation, and exchange of knowledge.

In 1990, Gabriel Almond observed that the divisions produced when groups of scholars chose to sit at "separate tables"—i.e., in encapsulated disciplines—promoted a loss of their ability to collaborate in a productive way.[7] Now, because we live and work in an even more complex environment, comprehension difficulties for recipients are also on the rise. In view of this, as Almond suggested, it would be useful to adopt common terminologies so that individuals in different fields could fully comprehend the work that others are doing in their own. Nowhere is this more important than in project implementation.

And now a bit about etymology. The word "transfer" is of Latin origin. It is composed of the

prefix 'trans' [across] and the verb 'ferre' [to carry or convey]. "Transfer" has two common meanings: The first is to convey or pass something from one person, group, place, or situation to another. For example, to transfer the reins of power from group A to group B.

The second meaning is found in the world of transportation. Here "transfer" means to move from one vehicle (A) to another (B), usually with the help of a strip of paper we call a "transfer."

If what passes from place to place is a person, an object, or something seen as an object (like the “reins of power”), it cannot occupy A and B at the same time. However, if what is transferred is knowledge, the situation is different. Like a faxed document, knowledge can stay with the sender while it moves to a designated recipient.[8]

This seems quite straightforward. However, difficulties arise when speakers retain the term "transfer" yet conceive of the process more broadly. An example of the problem may be seen in the definition of "research transfer" offered by the Alberta Heritage Foundation for Medical Research. This organization conceives of *research transfer* as "the art and science of strategically communicating research findings to decision-makers *and creating systems where they can effectively access, interpret and apply research*."[9] Clearly, the latter portion of the

Foundation's definition goes beyond the strict concept of "transfer" and enters the realm of "utilization"—a subject which will be addressed later.

Translation. This word is derived from 'translatus,' a union of the prefix 'trans' [across] and 'latus,' the irregular past participle of 'ferre' [to carry or convey]—the same Latin sources that gave us *transfer* in English. Etymologically, therefore, *translation* and *transfer* are virtual equivalents.[10]

Over time, however, English usage has brought in a second meaning for *translation*: namely, "a rendering from one language to another."[11] This is how Thomas E. Backer uses it: "What is known about an innovation," he says, "needs to be *translated* into language that potential users can understand readily . . . ."[12]

Unfortunately, the concept of rendering an idea from one language into another can lead to problems. Perhaps the main one is that, for a variety of reasons, the initiator of the message, the translator, and the recipient do not always have a common understanding and appreciation of the message or visualize it in the same way.

Even more confusion can arise, however, when the meaning of the word *translation* is extended beyond its two basic definitions and applied to subsequent points along the knowledge pathway.[13]

This sense of the word is simply too broad.

In order to avoid the pitfalls of excessive scope, we would limit the meaning of *knowledge translation* and define it as the process by which transferred knowledge is explained to recipients in such a way that they can understand its possible utility for them.

Understanding, however, does not necessarily mean that the transferred knowledge will actually be used or that it will be used in the ways imagined by its creators, for no matter how empirically determined and how well explained, knowledge "is subjectively consumed—by both individuals and organizations . . . ."[14] And, as will be seen in a moment, such *subjective consumption* can have a profound effect on implementation.

Management. With the burgeoning of science and technology in the twentieth and twenty-first centuries, the amount of data, information, and knowledge in existence in every field increased enormously. Toward the end of the twentieth century, the term *knowledge management* came into vogue as a means of referring to the process of skillfully organizing, indexing, and cross-referencing "material by subject, practice area and other criteria to make it easy to find when needed."[15] From this it is clear that *knowledge management* is a key precursor to the *mobilization* of

knowledge.

Mobilization. The verb "to mobilize" is derived from the Latin word 'movëre' [to move]. Three common definitions in English are: "to put into movement or circulation"; "to assemble and make ready for war duty"; and "to marshal (as resources) for action."[16] These definitions suggest that *mobilization* means the marshalling and readying of specific knowledge in such a way as to achieve a particular purpose once it is moved.[17] The Knowledge Quest Institute of West Virginia, however, defines it as "the process of creating value or a value stream through the creation, assimilation, leveraging, sharing and application of focused knowledge to a bounded community."[18] Quite a different understanding of the term!

Reception of transferred knowledge. It is clear from the above discussion that different people and organizations tend to use the same terms with different meanings. What complicates the situation even further, though, is that many things can happen when knowledge is transferred, for knowledge is never received on a *tabula rasa*. It can be discarded; it can be shelved for possible use in the future; it can be utilized immediately by the recipient alone; it can be shared with others; and so forth.

With this in mind, those who wish to transfer knowledge should strive to avoid communication failure by providing themselves in advance of the transfer with as much information as possible about themselves, the knowledge they wish to transfer, and the potential recipients of that transfer. For, as Machiavelli warned, if you are transferring something really new, you will likely face enormous difficulties in your attempt to introduce your innovation.[19]

As a teacher, I know that much of the solution to this problem rests with my ability to coordinate the learning styles of my students with the teaching styles that I employ.

And as an innovator intent on transferring new ideas to others, I am aware that knowledge can be packaged for transfer in a variety of ways. Indeed, Hari Srinivas lists over 150 formats in which knowledge can be packaged.[20]

However, I also realize that the successful transfer of knowledge depends on much more than packaging. It depends on a complex of factors, all of which play a part in the transfer process. Among those factors are:

- The careful selection of those chosen to receive the knowledge.
- Familiarity with the environment in which the knowledge is to be received.

- Attention to the appropriateness of the moment when the knowledge will arrive.
- Consideration of the suitability of the message for the needs of the recipient.
- Certainty that the transferred knowledge will be unique. (The recipient can respond in various ways which inhibit use of the knowledge that has been transferred. For example, "Oh, that's like what we're doing now." "Oh, that's too different from what we're doing now." "Oh, we've seen something like that before.").
- And sensitivity to the traditions, practices, values, policies, and *fashions* that are in place when the knowledge arrives.

Fashion. Now you might ask what role *fashion* plays in the process of knowledge transfer. Although, we generally think of it as referring to clothing, fashion is all pervasive in our lives.[21]

How does knowing this affect the way we should transfer knowledge? Simply put, if we don't move in rhythm with the times and follow the fashions, our efforts will be compromised. Therefore, let's remember that, today, *short* **is in**. Focusing on *recipient needs* **is in**. *Transparency* **is in**. And *recipient participation* **is in**.

But no matter what the time or what the fashion, it's always essential for the sender of a message to speak the same language in the same way as the recipient if effective implementation of a plan is to be achieved. In fact, speaking the same language in the same way as the recipient can help disprove Brian Haig's gloomy assertion that "a plan lasts until the second it's implemented."[22]

To say *implement* means to execute a plan as it was meant to be executed. It does not mean to "utilize" the knowledge that has been transferred, for *utilization* is simply a starting point for further use, possibly with results quite different from those the original planners had in mind.

An example of the difference between *implementation* and *utilization* would be the use of steam power at the beginning of the 19th century. In 1807, Robert Fulton designed a plan for applying steam power to boats for transport on water. The result was the steam - boat called "The Clermont." Several years later, George Stephenson also used the concept of steam power. If he had just *implemented* Fulton's design, he would have simply produced another steamboat. However, he did not. Instead, he *utilized* the concept of steam-driven propulsion and produced a vehicle for transport on *land*—the railroad locomotive.

Whatever the case, in order to communicate effectively with each other, we must speak the same language in the same way. This suggests that today, when everyone seems to be calling for greater *freedom of choice* in almost every sphere, there is a need to limit freedom of choice in language and establish "a standing rule . . . common to everyone"[23] who uses speech to communicate. This is especially important in government, science, and business. Standardization has been the aim of language academies from the 16th century to the present. By standardizing their national tongues, these academies have strived to insure that "the receiver of the information understands and appreciates the message in essentially the same way as the person who [sends] it."[24]

Fortunately for transdisciplinary collaboration, standardization is already being achieved within a number of field specific, national, and international organizations. Four examples are listed on your outline.

Canada's *Termium Plus* is of special interest. First, because it is one of the world's largest and most user-friendly multilingual terminology databases. And second, because it teaches how interested groups can standardize terminology in their own field of endeavor. Of particular value are *Termium's* explanation of what standardization is, as well as how to define a project,

organize a project team, establish sound work methods, reach consensus, and initiate the necessary follow-through to achieve the desired standards.

Academics and other professionals engaged in transdisciplinary collaboration—especially those who work across language lines—would do well to examine the *Termium Plus* website, for information it contains might raise their awareness of how standardization of terminology can be attained and, through it, how the possibilities for successful project implementation can be increased.

Notes

1. Cornejo, Gustavo A. Quoted in Robert Jay Glickman, *Fin del siglo: retrato de Hispanoamérica en la época modernista.* Toronto: Canadian Academy of the Arts, 1999, p. 273.
2. Paine, Thomas. Quoted from *Common Sense* (1776) in Eric Forner, *The Story of American Freedom*. NY: Norton, 1998, p. 16.
3. Jefferson, Thomas. Quoted in Forner, p. xv.
4. In his argument "Against the Federal Constitution," Patrick Henry said: "The question turns, sir, on that poor little thing—the expression, 'We, the *people*, instead of the *states*, of America.'"
5. Among other types of knowledge that have been mentioned in the literature are: traditional, spiritual, instrumental, strategic, tactical, practical, expert, explicit, tacit, embrained, embodied, encultured, embedded,, and encoded knowledge.
6. The following nouns are frequently used to indicate the specific manner of emission:
   - *Transmission*: i.e., the conveying of information from one person or place to another, as by means of telegraphy or telephony
   - *Distribution*: i.e., the giving out, delivering to,

or circulating of information among a finite group of members or subscribers, as through a mailout of issues of a newsletter, newspaper, or scientific journal.

- *Dissemination*: i.e., the spreading abroad of information as though scattering seeds in a circumscribed area, as by lectures at a scholarly convention.
- *Broadcasting*: i.e., the casting of information over a broad geographical region in a generalized manner, as by means of electronic media such as radio, television, or the Internet.
- *Diffusion*: i.e., the outpouring of information, often in a non-concentrated way, as is the case when travelers informally share craft "know-how" in their movement from place to place.

7. Almond, Gabriel A. *A Discipline Divided: Schools and Sects in Political Science.* Newbury Park, CA: Sage Publications, 1990.
8. This is the way the Alliance for Health Policy Systems Research conceives of it. For that organization, knowledge transfer is "the process of passing available knowledge along to specified 'audiences.'" (See <www/inclentrust.org/Modules/Module_Two_KnowledgeManagement/Overview Unit5/pdf >.

   Knowledge transfer has generated a

considerable number of organizations in the Western world. Among them are the AUTM, the IKT, and the ASTP.

Founded in the United States in 1974, the Association of University Technology Managers (AUTM), aims to support and advance academic technology transfer globally. AUTM has a network of members who come from "more than 350 universities, research institutions, teaching hospitals and government agencies as well as hundreds of companies involved with managing and licensing innovations derived from academic and nonprofit research" <www.autm.net>.

In Great Britain, the Institute of Knowledge Transfer (IKT) is the sole accredited professional body open to individuals who work in the field of knowledge transfer. It was established in 2007 as an 'Institute' approved by the Department of Trade and Industry's Secretary of State and is based at the Institute of Physic's headquarters in London. Drawn from both the public and private sectors, IKT members, focus on the innovative application and exchange of knowledge (<www.ikt.org.uk>).

The Association of European Science and Technology Transfer Professionals (ASTP) was created in December 1999 and is based in The Hague. With over 600 members in 38 countries, its

mission is “to professionalize and promote technology and knowledge transfer between the European science base and industry” <www.astp.net>).

Other organizations incorporate the word "transfer" in their official name. Two such bodies are the University of Alberta's Centre for Knowledge Transfer and the Province of Alberta's Health Research Transfer Network, which, in October 2002, held a conference on "Knowledge Transfer in Health" <chsrf.ca/knowledge_transfer/pdf/ktransfer2002_e.pdf>.

9. “Dissemination: An art and a science.” <ahfmr.ab.ca/ dissemination/program-desc.shtml> (italics ours).
10. The use of *translate* with the meaning of to carry or convey from one place to another is now quite rare in English. In theology, it means “to convey directly to heaven without death.” One of the few examples of this sort which the present writer has encountered is found in John Steinbeck's *East of Eden*: "Cathy was fourteen when she entered high school. She had always been precious to her parents, but with her entrance into the rarities of algebra and Latin she climbed into clouds where her parents could not follow. They had lost her. They felt that she was *translated* to a higher order."

NY: Penguin, 1982, p. 90 (italics mine).

The association of *translate* with movement is also found in Euclidean geometry. Here, its meaning is to move every point a constant distance in a specified direction.

In cytology, *translate* has the specific meaning of "to convert into a chain of amino acids forming a specific protein: said of genetic information in the form of messenger RNA" (<www. yourdictionary. com/translate>).

11. *Merriam-Webster's Collegiate Dictionary*, 10th ed. Springfield, MA: Merriam-Webster, 1994, p. 1254. It should be noted that language professsionals distinguish between *translation* and *interpretation*. In this field, *translation* signifies the conveyance of meaning from one language to another by means of the written word, while *interpretation* signifies the conveyance of meaning from one language to another through the spoken word. *Translation* is always done after the message has been presented in written form. *Interpretation* is of two kinds: in *consecutive interpretation,* the interpreter conveys the message after the speaker presents it orally; in *simultaneous interpretation,* the interpreter renders the message at the same time as the speaker presents it orally. In general usage, however, these distinctions are not usually made, and, whether the

message is rendered in written or oral form, the word *translation* tends to be used. For more on this subject, see the information provided by the Association of Translators and Interpreters of Ontario at <www.atio. on.ca>.

12. Backer, Thomas E., "Knowledge utilization: The third wave," *Knowledge: Creation, Diffusion, Utilization*, vol. 12, no. 3, 1991, p. 234.
13. The definition of "knowledge translation" offered by the Canadian Institutes of Health Research (CIHR) offers such an example: it encompasses the many steps between the creation of new knowledge, its assessment, the development of consensus guidelines, and more. (See <www.cihr-irsc.gc. ca/e/8505.html> 15 April 2005.)
14. Backer, p. 233. Because, as Backer says, knowledge "is subjectively consumed—by both individuals and organizations" and because the conversion of knowledge into action is a process consisting of multiple steps, we prefer to avoid using the expression *translating knowledge into action*.
15. Buckler, Grant. "Knowledge management crucial tool for law firms," *The Globe and Mail* (Toronto), 12 April 2004, p. B12. Buckler describes some of the major tools that are utilized in this process both within a broad field of endeavor and within

specific organizations: "The tools of knowledge management include data bases, document management systems and indexing tools that organize and cross-reference material by subject, practice area and other criteria to make it easy to find when needed. They also include intranets for making this organized information available to a widely dispersed audience."

16. *Merriam-Webster's Collegiate Dictionary*, p.747.
17. Daryl Rock and the Ontario Neurotrama Foundation define the term as "getting the right information to the right people in the right format at the right time, so as to influence decision-making" (see <www.onf.org/ knowledge/glossary. htm>). Based on our definition above, what Rock and the ONF call *knowledge mobilization* is, in reality, effective *knowledge transfer*. *Mobilization* takes place before *transfer* and makes the efficacy of transfer possible.
18. See <www.mountainquestinstitute.com>.
19. It was for this reason that Everett M. Rogers, in the 4th edition of *Diffusion of Innovations* (NY: Free Press)—a study of the ways in which new ideas and practices move from introduction to use—selected as his epigraph a quotation to this effect from Machiavelli's *Il Principe*.
20. "Packaging knowledge: An information

continuum," <www. gdrc.org/info-design/continuum/ continuum.html>.

21. Take a phenomenon that we see everywhere: downsizing. For several decades, we have observed a trend toward downsizing in women's clothing where the full-body fashions of yesteryear have been replaced by peep-show tops, hip-hugging minis, and, in the area of what used to be called *unmentionables*, the thong.

    In the corporate world, there has been downsizing in organizational structure, in number of employees, even in corporate names which morph into small acronymic clusters: Kentucky Fried Chicken becomes KFC; Royal Bank of Canada, RBC; Dunn and Bradstreet, D&B.

    We have seen a similar trend in communications. In computer hardware, huge mainframes have been successively replaced by desktops, laptops, and BlackBerries. In radio, television, and Internet transmission, *broad*casting has been followed by *narrow*casting, *ego*casting, and *tweeting*.

    And we have witnessed an analogous compression of military assemblages: large armies have been supplanted by compact fighting units, then by special ops, and, among the West's fiercest enemies, by individual suicide bombers—

each of which has had the advantage of giving more bang for the buck.

22. Haig, Brian. *Man in the Middle.* NY: Grand Central Publishing, 2007, p. 267. Haig is a former Assistant to the Chairman of the U.S. Joint Chiefs of Staff, John Shalikashvili.
23. Foner, p. 5.
24. Glickman. *Successful Business Meetings.* Toronto: Canadian Academy of the Arts, 1987, p. 37.