

## Comparative Knowledge

DAVID A. TURNER

Beijing Normal University, China & University of South Wales, UK

**ABSTRACT** This paper looks at the structure of knowledge as represented in the school curriculum and the academic traditions that divide knowledge into separate disciplines, each with its own distinct content and methods. In contrast with that traditional view of knowledge as separate and incommensurable areas, the author argues that different areas can inform each other, even though one area may not directly impact on another. Thus history and literature can have an impact on art appreciation even though they do not actually affect what is seen in a work of art. The end point of this argument is that education can enrich experience by creating more complex interconnections between different areas of knowledge, and that ultimately, learning more and creating interconnections is, in turn, a foundation for further learning and understanding.

*Keywords:* Knowledge, comparative, curriculum, reductionism

The World Bank has an interest in indigenous knowledge (World Bank, n.d. a), and claims to maintain a database of instances of indigenous knowledge, although the website suffers from a case of link-rot that is as bad as one could imagine. The website notes that there is no single definition of “indigenous knowledge”, but that there are several overlapping definitions:

Indigenous knowledge (IK) is the local knowledge – knowledge that is unique to a given culture or society. IK contrasts with the international knowledge system generated by universities, research institutions and private firms. It is the basis for local-level decision making in agriculture, health care, food preparation, education, natural-resource management, and a host of other activities in rural communities. (Warren, 1991, cited in World Bank, n.d. a)

This does set up an opposition between indigenous knowledge and the international knowledge system, and as scholars who are interested in science, technology, development and comparative education, we need to be concerned about how the interface between indigenous knowledge and the international knowledge system is managed.

The first thing to say is that much of the knowledge that the World Bank classifies as “indigenous knowledge” simply is not. Consider the example given by the World Bank (n.d. a) on the same webpage:

Higher yielding sorghum varieties were introduced in Ethiopia to increase food security and income for farmers and rural communities. When weather and other conditions were favorable, the modern varieties proved a success. However, in some areas complete crop failures were observed, whereas local varieties, with a higher variance of traits, were less susceptible to the frequent droughts. The loss of an entire crop was considered by the farming community as more than offset by the lower, average yields of the local variety that performed also under more extreme conditions. (Oduol, W. 1992) An approach, that had included the local experience of farmers, might have resulted in a balanced mix of local and introduced varieties, to reduce the risk for the producers.

The field of agricultural development abounds with such examples. Elsewhere, I have described the case of farmers in East Africa who spread maize seed on the ground and then ploughed the seed in. (Turner, 2004: 91-93) This contrasted with the advice of the international experts, who preferred planting all the seed at the “optimum” depth, rather than at random depths, as resulted from the locally preferred method. As I showed in that instance, the pre-existing local practice can be seen as an insurance policy, or risk management technique, which ensures a minimum return on effort. In fact, it conforms with a minimax strategy as described in games against nature in game theory. (Davenport, 1960) In optimum conditions, planting at the optimum depth produces greater returns, but in a range of sub-optimal conditions a minimax strategy secures a basic level of return which is more or less protected against the vagaries of circumstances that are beyond control.

That is to say, there is a perfectly good explanation in the international knowledge system as to why the activities of the indigenous people make sense. The fact that the international consultants have failed to understand what is required should hardly force us to dignify sound common sense with the label indigenous knowledge.

In another example that I witnessed, international consultants had advised the introduction of a breed of sheep from New Zealand to a rural Mexican

setting, on the grounds that the new breed put on weight faster and reached a marketable value quicker, despite requiring special, high value feedstock. The newly introduced breed was not successful, as, unlike its predecessor, it could not scavenge for grass around the village and, in the view of the Mexican farmers, “tasted like soap”. And while it certainly did reach maturity more quickly, this was of dubious value when weighed against its disadvantages. Again, the fact that international consultants may from time to time, or routinely and frequently, apply inappropriate criteria for selecting varieties of crops or animals can hardly be seen as a sound reason for introducing a new category of indigenous knowledge.

The information that the World Bank maintains on indigenous knowledge in agriculture abounds with such examples as intercropping, breed selection and water-saving activities, which only seem strange when contrasted with the prejudices of international observers for mono-crops, market-oriented selection criteria and management of water supplied to the fields.

The situation is slightly different in the case of indigenous knowledge about health. Here a range of nostrums are considered, but they are always framed in terms of modern, international medicine. So, for example, under the heading that in South Africa a strain of potato (*Hypoxis*) is used to boost the immune system of HIV/AIDS infected people, the following account is given:

[A] medicinal plant growing in Kwa Zulu (Natal), traditionally used to treat chronic viral and bacterial diseases, was originally used by traditional healers to treat cancer of the bladder and prostate, and according to some sources sexually transmitted diseases, [and it] had [been] shown that it contained two substances called sterols and sterolins, which are essential dietary fats or lipids. World Bank, n.d. b)

This is probably the most common approach to indigenous knowledge, but it dismisses indigenous knowledge at the same time as acknowledging it, by suggesting that indigenous knowledge is only of value if it can be reduced to, or translated into, the terms of the international knowledge system. Where a direct reduction is not currently available, it is implied that further research may be necessary in order to support translation in the future, as in the case of a herbal treatment for snake bites used in Burkina Faso:

Herbal treatment of certain snake bites is common among local communities, but its efficacy has to be confirmed by modern medicine. (World Bank, n.d. b)

This suggests that indigenous knowledge is only to be valued where confirmation can be found in the international knowledge system, which again seems a rather dismissive approach to indigenous knowledge. This is clearly

an important difficulty at the frontier between indigenous knowledge and the international knowledge system, but it needs to be managed rather better than this or indigenous knowledge will turn out to be of no significance whatsoever.

While it makes sense that I, who have been brought up with western medicine, will be able to put more trust in Chinese traditional medicine if there has been research that explains the efficacy of Chinese traditional medicine in terms that I can understand, as a comparative educationist I cannot help feeling that there ought to be a way of managing the interface between indigenous knowledge and international knowledge that is more even-handed, and recognises that indigenous facts may also be based on an indigenous epistemology that cannot easily be reduced to or equated with western epistemology (if such a monolith can be conceived).

At the same time, this more even-handed approach is at risk of falling into the opposite trap of incommensurability, arguing that separate knowledge systems cannot be compared, and that within the epistemological framework of each, the competing truths are secured. The philosopher Karl Popper has written extensively, one might say heatedly, on the “myth of the framework”. (Popper, 1994) What Popper describes as the myth is the concept of complete or exclusive incommensurability; the idea that because we have different conceptual frameworks, we cannot test our ideas against each other.

For example, a modern physicist who has an understanding of heat and energy based on the work of Joule and the laws of thermodynamics might have great difficulty talking with a physicist of centuries ago who interpreted all phenomena in terms of caloric, and the movement of that fluid. Similarly a chemist of today would have great difficulty talking with an alchemist. Both see the same phenomena, but describe them in such different ways that the scene as a whole presents itself to them in quite different ways.

But Popper's contention is that those difficulties of communication and obstacles to discussion are not insurmountable. It may be difficult to communicate across such boundaries, but not impossible. With good will and effort, both sides of the discussion may learn more.

The implication of this is that a watertight boundary between indigenous knowledge and the international knowledge system is not possible. But that is rather different from saying that one side of the discussion (generally speaking indigenous knowledge) must always be reduced to the terms of the other side. If that were the case, the international knowledge system could not possibly learn anything from the encounter with indigenous knowledge, and it is exactly that sort of arrogance that leads to the absurd results in agriculture that have been cited above. The relationship between indigenous knowledge and the international knowledge system must be much more subtle and nuanced than that.

The primary purpose of this paper is to problematise that interface, and to suggest that the question has not received enough attention. Certainly, the World Bank seems to avoid discussion of how the different fields of knowledge should interface, by grouping some very disparate examples of the interface under the general heading of “indigenous knowledge practices”.

I have already outlined cases where indigenous knowledge is highlighted, and possibly given heightened importance by juxtaposing it with international knowledge. This may happen in either a positive or a negative sense. In the negative sense, indigenous knowledge is shown to be explained by modern science, and therefore capable of reduction to what the cosmopolitan world knows. In the positive sense, indigenous knowledge is put alongside the foolishness of international consultants to emphasise the wisdom of the ages, when, in fact, the indigenous knowledge would be unremarkable but for the stupidity of the cosmopolitan world. But there are other ways in which the interface between indigenous knowledge and knowledge at large can be represented, with equally questionable results.

Another category of indigenous knowledge practices can also be seen in the World Bank catalogue, where indigenous healers are used as a vehicle for a message of modern science. One example from Mozambique includes the following:

The resulting AIDS/STD prevention programs have attempted to teach biomedical concepts to traditional healers by using symbols, metaphors and etiologic concepts already in use to explain familiar, locally recognized sexually transmitted illnesses. This has aided greatly in healers' understanding of unfamiliar biomedical concepts and has laid the groundwork for how traditional healers will promote behavior change among their clients, as well as new technologies such as condoms... Involvement of traditional knowledge workers (healers) in awareness creation in a psychologically and socially sensitive area like sexuality could have higher impact at a lower cost. (World Bank, n.d. b)

Here the knowledge that is coming from the external intervention is clearly prized above the indigenous knowledge. What is valued by the project leaders is the access that the traditional healers have to the population that they wish to reach, and the trust that the traditional healers inspire. While there may well be short-term gains in health that are greatly to be desired, this approach does not resolve the difficulties of the interface with indigenous knowledge, and may actually be harmful to indigenous knowledge in the longer run.

But while such cases of using traditional networks to disseminate international knowledge occur in the field of healthcare, in education they are dominant. One example from Niger concludes:

Traditional leaders, because of their moral and religious authority, can influence their communities in achieving development goals that necessitate behavioral change. (World Bank, n.d. c)

But one is bound to wonder how long that moral and religious authority can survive if divorced from the indigenous knowledge base which has traditionally supported it.

So I was particularly pleased and interested to attend a presentation that was given at a recent conference. (Crossley, Koya, McGrath, Sprague and Waqailiti, 2015) The presentation included a description of some novel approaches to research that had been adopted in conformity with traditions and expectations in the area, where colleagues from the UK and the University of the South Pacific worked side by side. One such technique was based on a community meeting and discussion which local communities use in order to address problems, propose solutions and come to conclusions.

One of the things that gives me pause here in describing the indigenous approach is that they are techniques, but how should they be described? Techniques of what? If one calls them techniques of data collection, then one has automatically cast them in an international knowledge context. Traditionally, these meetings produce conclusions and not data for further analysis. They are, by intention and construction, not focus groups or group interviews. But they also clearly do produce data. Is it legitimate for the international researcher (or the researcher with an international mind set, who may well be indigenous themselves) to take that data and use it as the basis for further research, after the community has arrived at its conclusions?

If we say that it is legitimate to see the indigenous method as a source of data for international knowledge, we run the risk of demeaning and undermining indigenous knowledge. But if we conclude that it is not legitimate to re-interpret observations that have been made for other purposes, we run the risk of limiting important research opportunities. Medical research would be almost impossible if such a stricture were rigorously applied; “this operation was conducted with the purpose of curing the patient and we should not see it as a source of data for further research, because the intent is different”. That would be absurd. And, similarly, I have seen a tension, especially in committees considering ethical approval of educational research, where the question of whether a teacher could use experiences that were the outcome of the professional practice of teaching as the basis for research has been a thorny problem.

Despite the fact that I generally dislike rhetorical questions, I cannot help noticing that the preceding two paragraphs are peppered with implied ques-

tions. And the reason for that is that I think that the relationship between indigenous knowledge and whatever other forms of knowledge we might suppose to exist is highly problematic. Most of what is written seems to be written in a more or less laudatory tone, praising indigenous knowledge over western, or colonial and colonising, knowledge. And that may well be a necessary step to redress centuries of neglect, when the superiority of the international knowledge system has been automatically assumed. But that attitude also suppresses discussion, and may reduce the possibilities for mutual enrichment of competing knowledge schemes.

So that leaves a number of necessary tasks in terms of managing the interfaces with indigenous knowledge in a way that shows respect for alternative ways of knowing, without raising indigenous knowledge onto a pedestal that protects it from critique. And a first step is to recognise the complexity of the issues involved and the naïveté of some of the approaches that have been adopted.

In the *Devil's Dictionary of Education*, Tyrrell Burgess offers the definition of “intelligent” as being able to hold opposing ideas in mind without being paralysed. (Burgess, 2002) This suggests that the complexities that we face in intellectual matters do not need resolving one way or the other immediately, but we need to learn to live with and balance the competing demands on our attention. This is not at all the same as suggesting that we need to suspend judgement; rather it suggests that we do not need to seek out simplistic solutions to complex issues.

### *Correspondence*

David A. Turner  
University of South Wales  
Email: david.turner@southwales.ac.uk

## References

- Burgess, T. (2002) *The Devil's Dictionary of Education* (London: Continuum)
- Crossley, M., Koya, F., McGrath, S., Sprague, T. and Waqailiti, L. (2015) "Contextual Values, Teacher Education and Sustainable Futures: Learning from Pacific experience and perspectives", Paper presented at the UKFIET Conference in Oxford, 15-17 September, 2015.
- Davenport, W. (1960) "Jamaican Fishing: A game theory analysis" in Mintz, S.W. (ed.) (1960) *Papers in Caribbean Anthropology Nos. 57-64*, 3-11, (New Haven, Con.: Yale University Publications in Anthropology).
- Oduol, W. (1995) "Adaptive Responses to Modern Technology: Kitui Farmers in the Semi-arid Regions of Eastern Kenya" in *Technology Policy and Practice in Africa* edited by O. M. Ogbu, B. O. Oyeyinka, and H. M. Mlawa, IDRC, Ottawa 1995.
- Popper, K.R. (1994) *The Myth of the Framework: In defence of science and rationality* (London: Routledge).
- World Bank (n.d. a) *What is Indigenous Knowledge?* Webpage at [http://www.worldbank.org/afr/ik/basic.htm#web\\_links\\_practices](http://www.worldbank.org/afr/ik/basic.htm#web_links_practices) accessed 20 October 2015.
- World Bank (n.d. b) *Indigenous Knowledge Program for Development: Knowledge Pack: Health* Webpage at <http://www.worldbank.org/afr/ik/ikpacks/health.htm#hiv1> accessed 20 October 2015.
- World Bank (n.d. c) *Indigenous Knowledge Program for Development: Knowledge Pack: Education* Webpage at <http://www.worldbank.org/afr/ik/ikpacks/education.htm#edu2> accessed 20 October 2015.
- Turner, D.A. (2004) *Theory of Education* (London: Continuum).
- Warren, D. M. 1991 "Using Indigenous Knowledge in Agricultural Development"; World Bank Discussion Paper No.127. Washington, D.C.: The World Bank.