Human Capital Theory: Intersecting Educational and Economic Theories

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Abstract: Training policy in the developed world is increasingly influenced by the perception that the future lies in developing the Knowledge Economy through investments in "Human Capital". There are some problems with this simplistic view of contemporary economics.

Human Capital theory has its roots in a T.W. Shultz Nobel prize winning article published in the sixties (Schultz, 1961). That short but famous article has become the basis for educational policy all over the developed world, according to international reports (Tremblay and Marchand, 2006; Healy, 2001.) Similarly the educational policies of Canada, New Zealand, the U.S. and the European community have been geared towards resolving their deficit in manufacturing and primary resource that the so-called emerging economies have more or less taken onto themselves, by calling for increased investment in the Knowledge Economy (Miller, 1996).

There are several theoretical issues that are raised by this trend in policy. First, the knowledge economy is situated at the intersection of economic theory and educational theory. This is of particular interest to adult educators, if their role is to remain meaningful in the current context. But are adult educators prepared to challenge economic theory?

We are increasingly aware that so-called 'developed' countries must depend increasingly for their economic health and survival on the expansion of knowledge-driven activities. This is seen as the natural result of recent advancements in information technologies and the new dominance of the third sector (service) economy, in which *competence* is synonymous with *productivity* and *knowledge* with *competitive edge* (Barnow & Smith, 2005). Another important factor has been the removal in recent years of many of the traditional barriers to the movement and transfer of goods and capital, which has been a central part of the process more widely referred to as the *globalization* of the economy. With the removal of trade barriers such as tariffs and import taxes, 'poor' countries can sell their goods anywhere at a cheaper price than 'rich' countries can, to such an extent that in developed economies the exploitation of natural resources, as well as many—if not most—of their manufacturing sectors, is quickly becoming irrelevant. Hence our need to develop 'knowledge capital' more or less as a substitute for the loss of our other competitive capabilities on the world markets. In other words, we are shifting our dependence from the more traditional forms of natural, work, and physical capital to what we now call *human capital* in order to build the new 'knowledge economy.'

There are some immediate problems with the notion of developing knowledge to develop economically. First, how do we know what knowledge will be useful *in the future?* Forecasting educational needs is not an exact science and can lead to some rather costly mistakes, such as our early attempts at integrating computer programming in the high-school curriculum in the 1980's, only to discover that people mostly need to learn how to *use* computers, just like using machines or automobiles does not require an engineering degree.

Indeed the rise of information technology is seen as the very heart of the "knowledge economy". We have witnessed the sudden appearance of new billionaires whose fortunes are entirely attributable to their futuristic computer savvy. How can the traditional economy, even on its best day, ever compete with this kind of success story? We have become so engrossed with the possibilities of computer technology that we confuse them with more basic economic realities. Consider the much-repeated idea that "the only thing we can be sure about is change itself". We all know that the shelf-life of any computer is merely a few years, because its functioning principle is reprogrammed at that rate due to advances in techniques of miniaturization. There is scarcely a job description in the world today that does not require at least minimally the operation of some computerized apparatus. Since computers change all the time, routine activities in the workplace are transformed accordingly. Of course one thing that we tend to forget, is that each time the computer becomes smaller and faster, most work-related tasks become *easier*, not more complex. In this context, to say that the workplace is ever-changing, and therefore requiring more and more advanced skills, is simply a falsehood.

How "Valuable" is Human Capital?

There is a difference between what has been conventionally called "human resources" and what is now called "human capital". The subtle distinction between the two is rather telling, in that a "resource" is something that one can exploit or use to some advantage objectively and without agency from the resource itself, while a "capital" by definition is not something that someone does, but that someone owns. Just like physical capital, knowledge capital can be acquired (through education) and preserved (through continuing education) and can yield dividends in the form of productivity and, arguably, the wealth of whoever owns it. But unlike other forms of capital, human capital cannot be separated from its holder, and its value is entirely dependent on that person's capacity to apply his/her knowledge in an economically profitable enterprise. In that sense, human capital, even if it is fostered and paid for by public agencies through public policy, remains the property of its holder, namely the individual who "owns" his or her education.

To what extent does the economy, defined here as concern for collective wealth, benefit from human knowledge? This theoretical question has never been challenged in a public forum or even posed by those who promote it as a current prospective ideal.

We know that there is an almost perfect correlation between individuals' educational attainment and income, as all statistical records show in developed countries. In other words, your income is statistically proportional to your years spent in school. There are many economic facts that corroborate the idea that education in not to be considered an expense, but rather an investment. For example, when university fees go up, there is no proportional decrease in enrolment, therefore pointing to a different dynamic than simple supply-demand. When the cost of higher education rises, the income of university-trained professionals also rises, again disproving that education is an expense rather than an investment. This can be compared to buying a house in the right neighborhood, and explaining why that house in that neighborhood can be priced one hundred times the value of the materials needed to build it in the first place. We call that a commodity in a market economy. Is education a commodity in a market economy? Schultz (1966; 1968; 1977) and Becker (1975; 1977) say yes. But they have left several question unexamined.

If education were a consumer object rather than an investment, variations in its price would be reflected in variations in its consumption, just as raising the price of apples reduces the

demand for apples. On the other hand, the cost of a business investment is determined by the benefits that one anticipates from that investment rather than by its intrinsic value. One notable but largely unnoticed exception to the non-market nature of education was the crash of educational inflation in the 1970's which led Freeman (1976) to deplore the lot of the "Overeducated American" because of a first-time-ever erosion of the 1-on-1 correlation between educational and economic achievement. I would call that, rather, "too many Educated Americans", which sends to the drawing board any serious discussion about education having intrinsic value for its holder, economically. It is rather a matter (and a proof) of the marketable value of education, which is a different thing than saying that education has economic value in itself, as an investment for the future.

Becker (1975), a long-time conversant and at times gracious opponent of Schultz, noted himself that "persons differing in education also differ in many characteristics that cause their income to differ *systematically*" (emphasis ours). This is opens very wide Pandora's box. Who benefits from investments in education and the knowledge economy? What is the relation between education, knowledge and economics?

Human capital is a renewable resource and, unlike other forms of capital, there is no theoretical limit to its supply. As the world becomes more and more knowledgeable, it should also become more and more prosperous, indefinitely. That assertion leaves considerable room for doubt, for obvious reasons. It also raises an all-important question: Does education actually improve a person's economic productivity, or does it just separate low earners from high earners by acting as a selection criterion? Becker (1975) himself admitted that education could simply provide signals ("credentials") about talents and abilities rather than determine real economic potential. We might further conjecture that the credentials provided by education may correspond to much more complex means of determining social appurtenance than Becker's mere workplace "talents" or "abilities." For instance, Bourdieu (1984) convincingly argued that education is one important factor in a person's *cultural capital*, which in turn determines largely where an individual will stand on the social-economic ladder. Becker himself admitted that his measurements suffered one possible flaw: "Persons differing in education also differ in many characteristics that cause their income to differ systematically" (p. 79).

The failings of the assumption that knowledge is the source of wealth are observable also in the broader organizational context. Large corporations are increasingly dependent on their customer service to differentiate themselves from competitors who offer identical products at identical prices to the same customers. This 'soft' sector can be developed only by providing additional training to employees, which is one reason that companies claim that knowledge is essential to profits. Although this may have direct consequences for the manager of a local business, it nevertheless amounts to a zero-sum game in which the same number of customers, receiving the same services, simply redistribute themselves according to some condition such as the perceived quality of customer support. In this case increasing competitive capacity, and not productivity, does nothing to further the goal of a stronger economy for all.

Finally, let's look at the proviso that human knowledge is the property of its holder. It is a well-documented fact that in developing countries, any investment beyond basic education benefits the individuals who have gained higher knowledge, but does very little for the economic or social benefit of the nation. The reason is simply that higher education either serves directly the interest of the educated or is lost to the phenomenon known as *brain drain*. In developed economies, we can assume that the 'knower' is still at the centre of the equation and that the owners of marketable knowledge derive a benefit from their savvy. The problem, however, is

that knowledge-based wealth, because it *replaces* production-based earnings in the new knowledge economy, does not 'trickle down' as would be necessary for a complete economic cycle of value-added production. Indeed, it would seem logical to assume that in the absence of a healthy manufacturing sector, a country's knowledge-based wealth will be quickly exported to second-sector-intensive developing countries in exchange for imported manufactured goods. In this perspective, we can safely surmise that the "knowledge economy" is also a "high-unemployment economy".

Economics and Social Responsibility

From the very beginnings of theoretical economics, the notion of social responsibility emerged as one of its fundamental issues. In the late 18th century Thomas Robert Malthus warned us of the natural limitations of any economy, simply because of the fact that resources are never limitless. Because the ability of humans to produce children is proportionally much higher than their ability to produce food (Malthus used the expression "geometrically higher," but who could verify this?), or even to clear arable land for the production of food, economic equilibrium can be achieved only by limiting the reproductive output of humanity. This can be done either by such 'natural' checks as famine, disease, and war, or more preferably by the imposition of a "moral social order" that curbs the natural desires of humans for the act of reproduction, through religion, ideology or personal responsibility. Furthermore, as Amartya Sen (1981) reminds us, calamities such as war and disease are almost never caused by the scarcity of natural resources, just as famine is almost never caused by a lack of food. Hence, 'public morality' was seen very early as a direct consequence of economic reality and as necessary to human survival as the air we breathe.

The Malthusian *physiocratic* view of economics, which places the Earth's natural resources as the ultimate source of all wealth, as well as the precepts of *mercantilism*, which advocates upholding a strong local economic protectionism for the benefit of the feudal classes and the Sovereign, were soon to be replaced by the ideas of the first liberal economist, Adam Smith, along with a very different, but equally powerful, commitment towards moral economics. In his seminal work, *An Inquiry Into the Nature and Causes of the Wealth of Nations*, Smith argued that the true source of wealth is human productivity, which can be achieved and maximized through the division of labour among the population and the multiplication of competing economic agents. Smith also argued strongly against the application of limitations on international trade such as tariffs and import taxes and predicted that the pursuit of self-interest would inevitably benefit everyone's interest. Thus, free trade would become the only balancing factor in an otherwise "liberal" economy.

In our era of globalized economics, Smith's discourse sounds strangely familiar, and indeed it is utilized freely by those who have a stake in the neoliberal agenda. What they don't tell us, however, is that, not unlike Malthus, Smith very early came to reckon that the ultimate goal of economics was to provide for the "common good" and that this could not be achieved without the application of some kind of "enlightened power." In other words, Adam Smith himself, the inventor of "liberal" economics, was the first to admit that we could not leave the "invisible hand" of the market entirely free lest we risk economic havoc and, above all, grave social injustice and suffering.

One of the obvious problems of an uncontrolled economy, Smith said, would be the rise of monopolies that could neutralize the self-regulating forces of supply and demand. Therefore, various regulations are required in order to prevent the unhealthy concentration of market share

in one or two companies in any given economic sector. These safeguards, although relatively simple to implement in traditional production economies, become almost impossible to apply in the 'knowledge' economy. Indeed, the nature of highly complex or technical knowledge usually requires an equally complex form of organization in order to flourish. This is the reason that knowledge industries often require not only the intricate infrastructure of a single corporation, but also the synergy afforded by what are known as *clusters* of knowledge-based organizations. Examples of clusters would be Silicon Valley and Wall Street. These clusters have become an essential feature of the knowledge economy and are usually dependent on government policy and handouts. However, because of the complex nature of their organization, knowledge industries cannot be duplicated indefinitely, and this tends to limit their numbers. For this reason, many knowledge industries have transformed into what economists have called *natural monopolies*. Traditionally, natural monopolies have been public services that would be too bulky or costly to reproduce (for example, public transport services or water distribution). Today, high-tech corporations function in much the same way as natural monopolies do, their sheer bulk guaranteeing low competition from others (unless we can be fooled into believing that two telephone distributors instead of one will ensure the fair exercise of market forces!). Here we see at work one important feature of "neoliberal" economics: Contrary to Adam Smith's exhortations, the new agenda is not concerned with curbing the inherent defects of the market economy, which is essential to the pursuit of the common good, but rather with ensuring that those who benefit from the systemic deficiencies continue to do so freely.

Adam Smith's publication was subtitled "A Treatise of Political Economy," which is a good reminder that there is no "economy" outside of the social-political organization of human affairs and that good economic progression cannot be separated from good political governance. Today we are faced with deciding whether to oppose economics and politics as two distinct spheres of activity or to reaffirm the fact that economics *is* politics. In short, the challenge of public policy today is to redefine the relationship between the *social* and the *economic* spheres of human activity and to shape the nation's economic activities in such a manner that they pursue nothing less than Adam Smith's "common good." This cannot be done by limiting the notion of human capital to high-tech development and international competition.

References

Barnow, B. S., & Smith, C. (2005). *Job training policy in the United States*. Kalmazoo, MI: W. Upjohn Institute for Employment Research.

Becker, G. S. (1975). *Human capital: A theoretical and empirical analysis with special reference to education.* New York : Columbia University Press, National Bureau of Economic Research.

Bouchard, P. (1998). Training and work: Myths about human capital. In S. M. Scott, B. Spencer, & A. M. Thomas (Eds.), *Learning for life: Canadian readings in adult education* (pp. 128-139). Toronto, ON: Thompson Educational.

Bourdieu, P. (1984). *Distinction : a social critique of the judgement of taste.* Cambridge, Mass.: Harvard University Press.

Favreau, L., & Lévesque, B. (1996). *Développement économique communautaire: Économie sociale et intervention.* Sainte-Foy, PQ: Presses de l'Université du Québec.

Freeman, R. (1976). *The overeducated American.* New York: Academic Press.

Healy, T (2001). *The well-being of nations : the role of human and social capital.* OECD Secretariat.

Miller, R. (1996). *Measuring what people know : Human capital accounting for the knowledge economy*. OECD Publication Center.
Murphy, K. M., & Welch, F. (1989). Wage premiums for college graduates: Recent growth and possible explanations. *Educational Researcher, 18*, 17-27.
Schultz, T. (1961). Capital formation by education. *The American Economic Review, 1*(2), 1-17.
Schultz, T. W. (1950). Reflections on poverty within agriculture. *Journal of Political Economy, 43*, 1-15.
Schultz, T. W. (1963). *The economic value of education*. New York: Columbia University Press.
Schultz, T. W. (1964). *Transforming traditional agriculture.* New Haven: Yale University Press.
Schultz, T. W. (1971). *Investment in human capital: The role of education and of research*. New York: The Free Press.
Sen, A. K. (1981). *Poverty and famines: An essay on entitlement and deprivation*. New York: Oxford University Press.
Statistics Canada. (2003). *Adult education and training survey*. Ottawa, ON: Government of Canada.
Tremblay, J.-F. and Marchand, S. (2006). *International adult literacy survey*. Government of Canada. National Literacy Secretariat. Statistics Canada.