

Capitalism, education and environmental degradation: is it the system or the syllabus?

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*“Those energy wrought children
their limbs loaded into school desks.*

*In the shadows they are fed
Algebra-Science-Syntax.*

*Outside, the ignorant
are laughing and playing
in the Sun.”*

Milligan (1997, P121)

Abstract

It is a common belief that environmental awareness is the key component for understanding and addressing the reasons for environmental degradation in contemporary society. It is this author's view that this belief is a misconception. The inspiration behind this article lies in marrying this misconception, as promoted in Berger (1994), to existing concerns over the influence of capitalism upon education systems. Awareness is inextricably linked to education, both in the forms of the content (syllabi) and the values (norms) it teaches and instils. If these are reasons, what are the causes, and how do the educational systems of capitalist countries relate to both reasons and causes of environmental degradation? I propose a basic hypothesis relating the intrinsic inability for self-sustainability and inherent instability of capital and capitalism to environmental degradation through a mediated impact upon educative systems which establishes normative values and conditions citizens into meritocratic consumers for the purpose of sustaining economic growth at the exclusion of non-economic decision making imperatives.

Introduction

Emerging from the false dawn of the millennium, burdened by great idealistic hopes and white elephants, a number of serious challenges and problems are facing humanity. Due to the very extent of man's reach, stemming from the burgeoning population of Earth and the harnessing of profound technological development, previously isolated problems that could be contained within a locality, perhaps even ignored, have now been magnified spatially, ecologically, economically and politically. What's more, our attempts in the past at treating these problems in isolation, which subsequently failed on many issues, have now lead us to identifying causal and symbiotic links between pre supposedly unrelated problems, and indeed related causally to our modes of existence. In particular I am referring to the brands of capitalism practiced in the more neo-liberal countries of the world, a blend of consumerism, shareholder capitalism, marketization, protectionism and varying, but usually small, degrees of socialism in the context of welfare and public goods. These forms of capitalism, whilst being simplified here for the sake of discussion, can only perpetuate with the aid of social structural interference in, nowhere is this more evident than in education.

The greatest threat to us is perceived to be environmental degradation, which combines various adverse effects such as resource depletion and contamination, pollution, anthropogenic global warming, ozone depletion and so on. This threat has collided with the extra pressure of a global population that has increased almost exponentially in the past two hundred years. There is now a realisation that if the citizens of the developing world, which comprises the bulk of the global population, wish to attain the lifestyles of the west, then we will face not only critical resource shortages, but a catastrophic global ecological meltdown.

It cannot be said that capitalist societies are the sole cause of our global, environmental degradation, one need only witness the poor environmental record of the former socialist Eastern Bloc to state that capitalism alone is not the nexus for such degradation. The reasoning behind the communist degradation shares in part a similarity with that of capitalism, applying no intrinsic value to nature. However, neo-liberal capitalism, in its many guises, combined with the goal of long term growth, does possess a need for continued expansion which requires a number of specifics from society, such as a cultural legitimization of economic primacy in decision making processes. Neo-liberalism is a 'form of accumulation' that contains imperatives for 'all areas of social life'. In particular, education is 'powerfully affected in its multiple roles of support for accumulation, maintaining cohesion and identity and legitimating the system as a whole' (Dale 2005).

This poses the question of what is it about the lifestyles of the West that render them so unsustainable and so damaging? And why in such highly educated societies are these lifestyles not being changed radically by informed decision making? What policies or apparatus creates the conditions for such lifestyles to be considered normal and acceptable?

Forming a hypothesis

The hypothesis I wish to propose is centred on arguments, not without direct and anecdotal evidence, that education establishes for life decision making norms, values and a lack of intellectual tools which are prevalent over and above knowledge and awareness. It is this state of affairs that ultimately leads us to environmental degradation. Throughout this article I shall explore the validity of the hypothesis and discuss ways in which the involvement of capitalism in the structure of education leads to, through various routes, these conditions being established and conserved.

Much of the environmental degradation witnessed in modern times, can be hypothesised to be due to the underlying situation that is the dislocation both mentally and geographically between production and consumption. This is the result of capitalist systems in the global political economy, which in a 'West-centric' standpoint can be seen as centring consumption on the core, and exporting production to the periphery. This also has the effect of exporting the majority of the pollution associated with our consumption (the productive phase) to the periphery. Therefore, commodities can be bought or consumed without any knowledge of the raw materials, energy needed and method of production, and the environmental and socio-economic conditions that that may impose on the citizens of the periphery. In general I am considering periphery to be developing countries, but it also applies in many instances to the core-periphery relationship within countries and cities.

The consumer in the West could not see what the productive process entailed for their products, nor could they see the impacts. This was, and sometimes still is, often true of products which are produced in the periphery of their own country, such as low-cost food (in particular meat from intensive farming practices). Thus, they possessed no, or little awareness, with regards to the impact of their consumptive patterns. The geographic dislocation to these practices encouraged the mental dislocation because there was no immediate empirical observation. The mental dislocation is of greater complexity though, and cannot be fully discussed in this article.

Herein lies only half of the problem. We have become increasingly aware of the negative impacts of this relationship, yet continue with the status-quo. This is where the problems of why awareness alone cannot stop environmental degradation come to the fore, and this will be explored later in the article.

Consumerist consumption as a norm has its own associated inherent problems (not least of all a strong relationship between materialism and depression in Western societies- see the rise of academic and popular works on what is coined 'Affluenza'), but in terms of environmental degradation, the problems are more closely associated with production. These problems include pollution from productive modes, resource loss, unsustainable land use, greenhouse gas emissions and so on. In this case, consumption is the reason for the degradation, production is the cause.

It is my intention to examine this further. Consumption of materials is a given, consumption above sustainability and sustenance is consumerism, and is driven by materialism. These are not intrinsic modes in human behaviour. These are modes engendered and fostered in society in order to support the somewhat contentious goal of indefinite year on year economic growth. Berger (1994, p. 782) notes that, 'Economic decision making in modern societies...is culturally legitimized to be oriented primarily toward economic criteria'.

The primary apparatus available to any government to instil this behaviour, and to establish it is a normal, is through education. That is not to say, however, that this pressure to consume, and to be judged on material gains, is solely manifested through educational apparatus. It comes through media, housing markets, competitive employment markets, advertising and the inevitable pressure to reinvest capital when it is provided in a quantity greater than our needs command. Surplus can be related to the concept of wants (and in some cases greed – both in materialistic and political senses).

In many developed countries, the presence of business and their lobbies in government is well established. Indeed, a government which intends to serve its country well must pay heed to the thoughts and needs of the economy, and those who compromise it. Paying particular attention to the UK for the purpose of constructing this hypothesis, there was a notable change in the relationship towards the business community at all levels of government and in policy forming after the 1997 election of 'New Labour'.

Contemporary economic growth depends on high levels of consumption and a willingness and desire for more that is never sated. In addition, to reach these levels of ever increasing services and consumption, dedicated and flexible skills are needed to ensure an expanding and more productive workforce (population) is present to carry out this work. This is manifested through the construction of an educational system that compels pupils to adopt servitude, prize-hunting, career related skill sets and debt before they are functioning adults. It establishes normative values and philosophical frameworks that constrain deviance from economic primacy in decision making and goal setting. Knowledge is given not acquired in this system, and a spoon fed approach to inquisition follows as a result.

According to Russell (1918, p. 115), the practice of meritocratic competition in schooling, introduces a competitive spirit into young people which 'makes them regard knowledge from the standpoint of what is useful in examinations rather than in the light of its intrinsic interest or importance'. This early view of the impact of competition in formative years concurs with the more contemporary work on the subject matter such as that of Stevenson in his article 'Schooling and environmental education: contradictions in purpose and practice', which will be examined further in this article. Central to Stevenson's work is the view that currently schools convey 'norms of individualism, competition, achievement and independence: norms that prevail in the dominant culture and maintain the existing structure of society' (Stevenson 2007, p. 145).

Awareness is not a given for informed decision making with the appropriate underlying normative values and philosophical tools for inquisition and evaluation. Instead it is rendered as knowledge with translation or application. Hence Stevenson's remark that 'students also need to be competent to implement or act on their choice, otherwise they will not consider themselves capable of rectifying environmental injustices, and therefore will not experience an authentic choice on these issues (Newmann,1975). In other words, without the ability to act on their choice, they in effect have no choice' (Stevenson 2007, p.147).

Thus, the hypothesis is that the intrinsic inability for self-sustainability and inherent instability of capital and capitalism imposes favourable structural conditions upon educative systems which establishes normative values and conditions citizens into meritocratic consumers for the purpose of

sustaining economic growth at the exclusion of non-economic decision making imperatives. This, despite increasing environmental awareness, underlines our everyday decision making with an economic primacy, leading to environmental degradation.

Awareness as a reason for environmental degradation

In discussing the concept of awareness it is worth seeking to define exactly what it means.

Referring to the Oxford English Dictionary (on-line edition, 2007):

aware

→ *adjective*

[predic.] having knowledge or perception of a situation or fact: *most people are **aware of the dangers of sunbathing*** | [with clause] *he was aware that a problem existed.*

- [with adv. or in combination] concerned and well informed about a particular situation or development: *everyone needs to become more **environmentally aware***. [bold emphasis and italics from original]

It is interesting to note in this definition the use of the concept of being environmentally aware as a contemporary example of being 'concerned and well informed' about a topic. Of more relevance is the assertion that, to suggest more people are environmentally aware, is to say they have 'knowledge or perception' of the environment or an environmental situation or fact.

Berger, in his article on the economy and the environment, attempts to define a distinction between 'causes' and 'reasons' of environmental degradation. One can reasonably infer that causes were related, or presupposed, an objective world, and reasons were of a subjective form. Interpreting this, the argument is that 'causes' can explain why something was not prevented (that it creates a scenario or context for a reason), but not why it occurred. 'Reasons' are why it actually happened, not what situation allowed it to happen. For instance, a lack of environmental regulation (cause) allows someone to freely pollute, but does not explain why they choose to pollute, such as self-interest (reason). That is the distinction between causes and reason. It is useful to employ the distinction that Berger uses between causes and reasons of environmental degradation.

Berger believes that if 'economic decision making was informed by the principle that actions be avoided that could harm nature, no environmental problems would exist' (Berger 1994, p. 779), and subsequently arrives at a conclusion that environment degradation is primarily a result of a lack of awareness of consequences of actions upon the environment. To give 'reasons' for environmental pollution is in his opinion, to account for this lack of awareness.

It would appear however, that this definition and distinction lacks some specifics, for instance there is no distinction between awareness and understanding. There is clearly some awareness of environmental problems in Western Europe, but there is currently a lack of understanding of the problems and a connection between personal awareness and understanding of both the problems and how one relates to it. It is one thing to inform economic decision making with these principles, but it makes no account for how these principles cannot overcome established norms which contradict this assertion.

It is my contention that the tailoring influence of capitalism, mediated through governmental policy, undermines the impact of environmental awareness via the establishment of incompatible norms and goals during education. It legitimises an overriding of environmental inputs in the decision making processes we entertain. The dominant culture will not allow the environment, to be part of the decision making. The culture is a strong cause, and forces even those who are aware to obey it, thus making it a reason too for environmental degradation in some sense.

The goals of capitalist education

Part of this working hypothesis contests that capitalist education systems instil and legitimize economically based decision making and selfish values based on the *a priori* assumption of the primacy of Western materialist-meritocratic societies, which in turn provides both causes and reasons for environmental degradation. This section draws on the work of Mulderrig (2003).

There are three projects which relate educational policy to capitalism, namely 'creating a business agenda in and for education; making education a principal agent in the construction of the workfare state; and creating the lifelong learning society' (Mulderrig 2003).

Education has increasingly lost its autonomy and has been brought forth into the sphere of production and economy by successive governmental and international bodies' reforms in developed

countries. There have been incremental changes in curricula towards a more vocational approach and serving the needs of knowledge based economies (KBEs).

Investment into education is expected to provide increasing returns for the economy. Much has been made of the need in the modern globalized world to create and serve knowledge based economies.

The UK's New Labour, from the outset, has adopted an economy friendly market discourse in its approach to reforming education, and thus its policy 'feeds off recognisable patterns of consumption and desire which pervade everyday practices in contemporary social life' (Mulderrig 2003).

Taking again the example of the UK, it has been said that the very core of the new initiatives in education, such as league tables, marketization, and Academies, relate from a desire to serve up to the needs of globalization, greater economic competitiveness above other aims (Mulderrig 2003).

Much of Mulderrig's hypothesis stems from the work of Dale (1989). He identified three 'core problems' for the government relating the aforementioned instability of capitalism to create the conditions for its continuation. Dale (cited in Mulderrig 2003) states these core problems as being: '...supporting the capitalist accumulation process; guaranteeing a context for its continued expansion; and legitimising capitalism and the State's role in it'.

It was Dale's contention that is contradictory for the state to apply these problems to the education system. For a political party (New Labour) which is notionally, traditionally at least, on the 'left', this role in the marketization and commercialization of education for the sake of the economy, is not without its contradictions, in line with the views of Dale, and noted by Mulderrig: '... [the state] supports the accumulation process by producing an elitist system, which fosters talents and encourages instrumental competition'. However, this policy 'poses a problem for its legitimation function', as this elitism it fosters 'sits alongside the welfare system in demonstrating capitalism's ability to provide equality of opportunity and civil rights'. It follows then that this kind of education policy 'embodies contradictory tensions that arise from its relationship with the economy' (Mulderrig 2003).

A central theme in New Labour's reforms has been education's role in 'economic competitiveness, manifested in the proliferation of educational strategies aimed at producing a better skilled

workforce, and in an escalating rhetoric about the links between schooling and economic productivity' (Mulderrig 2003).

Education as a market

Education in OECD¹ countries is increasingly becoming defined by market structures and indicators. This is found elsewhere to in the developing world, largely under pressure from neo-liberal policies such as those outlined in the 'Washington consensus' and pushed by institutions such as the World Bank and IMF.

To make 'education a principal agent in the construction of the workfare state' (Mulderrig 2003), the state must re-structure the education system and manage the system according to market systems. This is normally initially achieved through de-centralization which 'frees' the education system from the centric control of a single closed educational department and involves attracting investment and involving other societal stakeholders, with a particular emphasis on businesses and economists, to develop a more flexible system that responds to the needs of the country (for that, read economy). This is the rationale behind such New Labour schemes as the formation of Academies, discussed in the next section.

What this does on the level of education institutions, such as schools and universities, is make them competitors. Funding is a reward and incentive, for ambition and success. Institutions are assessed on key standardised indicators to allow comparison with other institutions. League tables represent the relative success or failure of these institutions. Plenty of critique on the 'merits' of this system can be found elsewhere, but for the purpose of this article, the focus will remain on what values this system engenders at the individual level.

For schools, the imposition of marketization, according to Mulderrig, invokes a move in content towards 'a more vocationally relevant curriculum, in particular the skills and dispositions appropriate to the continuance of a technologically-driven knowledge economy' (Mulderrig 2003).

This is often described in educational literature as 'The Schumpeterian² workfare state', which is quite distinctive from the the old Keynesian welfare state. Its aims across the spectra of society and economy are:

¹Organisation for Economic Co-operation and Development

²For more information on the economist Joseph Schumpeter see http://en.wikipedia.org/wiki/Joseph_Schumpeter

'to promote product, process, organizational and market innovation in open economies in order to strengthen as far as possible the structural competitiveness of the national economy by intervening on the supply side; and to subordinate social policy to the needs of labour market flexibility and/or the constraints of international competition' (Stokke 2007).

Marketisation touches on the issue of business defined specialisation, which is beyond the scope of this article to discuss in detail. However, it is worth noting that it is a consequence of the need to serve the Knowledge Based Economy, which has few, if any, environmental inputs, or indeed altruistic ideology. Instead, KBE discourse is 'dominated by a market-driven approach' (Engelbrecht 2007). The result is that knowledge's value depends its potential to be transferred to the market and whether it can make a positive monetary contribution to the economy, (Engelbrecht 2007).

The influence of capitalism and business in education.

In this section I will continue to use the UK educational system as a case study.

There are two key sets of institutions that outline the direct influence of business. These are city academies, part of the recent New Labour educational reforms, and universities.

This government's view towards the importance and role of education are highlighted in their rhetoric on educational policy: 'With China and India producing 4 million graduates a year, we cannot afford to waste the talents of any person' (The Labour Party 2007).

Schools:

The influence of business in education is seen most clearly in the New Labour Academy initiative. The scheme was launched to replace failing state schools with larger schools with private sponsors, be they corporate or charity, which in return for providing some funding towards infrastructure (a minimum of £2 million typically), have access to defining the governance, curricula and structure of the school. This the government hoped would enhance links between the school and the community and create a dynamic educational environment.

However, it is perhaps more revealing how one academy (The City of London Academy) proclaims the intended rationale behind this scheme:

'Many students attending under-performing schools leave at age 16 without the necessary skills to get good jobs. Some will become economically dependent upon the State, others will drift into crime.'

Thus they follow, by such cold economic logic, to say that:

'We cannot afford large numbers of unskilled and unproductive people if we are to successfully compete in international markets. The interests of the economy and social justice converge: we must ensure that we provide high-quality schools and education for all your young people' (The City of London Academy 2007).

These interests are seen in the presence of business sponsors taking prominent roles on the governor's board where, 'They will ... make decisions about the Academy's vision and ethos and structures for governing and managing the new school' (DFES 2007).

This represents first hand evidence for the role of capitalism as suggested in the hypothesis. This is more broadly supported by Mulderrig - 'if we are to understand the postulated increase in education policy texts of commercial values and Discourses, we must also recognise the changes in governance structures that allow representatives from the commercial sector an unprecedented voice in policy-making procedures, through a burgeoning of advisory and interventionist powers' (Mulderrig 2003).

This influence renders successive questions on the content of public schooling curricula to ultimately being choices 'in defining the culture [the curriculum] is to transmit. These choices ultimately reflect the 'mainstream' or dominant beliefs, values and norms shared by those who have political power in our society' (Stevenson 2007, p. 145).

Universities:

The higher education system in the UK, particularly in the case of universities, is undoubtedly a market. However it is a complex market with various actors and institutions. There are myriad funding bodies, advisory boards, pressure groups, councils, unions, elitist groups, the government, industry, the public, and of course students and researchers themselves. Universities and researchers have to compete for funding. They must further compete for students. This is a slightly more complex competition as it involves external factors such as local attractions, culture, costs and

reputation. But there exists a means for students to identify in league tables the relative position of their desired institution for each subject, teaching quality, their subsequent job prospects and so on.

With the advent of fees for students, the universities have been forced into increasing competition, as students begin to act as customers, with all the demands that they place on normal businesses.

Not only is there this financial pressure, but in order to compete effectively with other institutions for funding, staff and research, there is a pressure to form outside partnerships to generative funding for investment and expansion.

As a result, the inevitable conclusion will be 'that corporations will have widespread influence on ... universities...as we move into an era of education markets and governments that favour increasing corporate-public partnerships, universities are finding it hard to keep corporate influence at bay' (Ward 2007, p. 242).

Naturally, corporations are a suitable partner for universities in that they cannot undertake specialist research and development effectively without the scale and quality of facilities and researchers offered at universities. This raises a question of objectivity and over the independence of both the university and its research staff. Corporations are legitimized by law to seek returns on every investment. Providing money on top of basic funding results in corporations having extensive influence in the design, running, purpose and output of a research institution.

Ward (2007, p. 243) outlines research which highlights the extent to which this is now occurring in the UK:

'A report ... well illustrates this point: '[Fossil fuel] companies... have succeeded in 'capturing' the allegiance of some of Britain's leading universities, through sponsoring new buildings, equipment, professorships and research posts' ¹⁸ It goes on '...universities are encouraging oil companies to steer the research agenda, tailoring courses to meet corporate personnel demands and awarding high profile positions to oil executives. In May 2001, for example, British Petroleum established its own institute at Cambridge University with a £25 million endowment. The Institute's full time director is one of the company's senior managers.'

Some institutions and departments are more vulnerable to such relationships, and the extent to which corporations influence them, and how much they admit to it, is varied. For instance, 'at

Heriot-Watt University's Institute of Petroleum Engineering they make no attempt to hide such influence, quite the opposite in fact. Courses are '...tailored to the needs of the petroleum industry and place considerable importance on the maintenance of close links with industry' (Ward 2007, p. 244).

These concerns are now being mirrored for the new secondary education Academies discussed previously in this article.

Perhaps an overlooked aspect of the expansion and subsequent marketization of the higher education sector in the UK is the impact of increasing tuition fees. There is in effect a double-positive here for the capitalist economy and for the businesses that reside in the economy.

Increasing numbers of young people are becoming adaptive and highly skilled members of the knowledge economy (and thus improving the quality and quantity of the workforce, with particular emphasis on tertiary and quaternary sectors) and they are paying an increasing share for this privilege. Furthermore, on leaving higher education, many students find themselves in serious debt, the government themselves forecasting for the 2006-2007 year an average graduate debt of £15000 (DFES 2004, p. 6). This could be exacerbated by an expected rise in fees in the coming years, perhaps up to £10,000 per annum for scientific subjects (Guardian Unlimited 2007). The problem of this debt, which the government does not believe is a real debt (DFES 2004, p. 3), is that despite an average graduate salary of £23,024 for 2007 graduates (Prospect 2007) this financial burden bears a heavy presence due to its totality (not the required pay-back rate). This applies a subtle psychological pressure to graduates to seek out employment with an imperative towards higher salaries, and to employ an economic imperative in their daily consumerist decision making. This overrides whatever awareness there exists for the environment. In trying to start their lives graduates will postpone what is seen as a luxury choice, that of opting for actions with a lesser environmental impact (and often associated, but not always, with an increased cost), until a later stage. Such behaviour is difficult to reverse. This is an effect supplementary to the core of the hypothesis, nonetheless it is still related to the influence, through marketization, of capitalism upon education.

A further point to consider in understanding appropriate approaches towards preventing environmental degradation is, as noted in Ward (2007), universities have erred from their original path. That is, to educate in a manner which means to lead forth, to provide the knowledge and importantly, the philosophical skills needed to examine and change the world. And in their title,

their lies a clue to the framework in which this knowledge must be studied and applied. Namely, in a universal sense. That involves not only looking at everything, but looking at everything in a holistic manner. The move away from such holistic approaches is a consequence of both natural specialisation through knowledge advancement and from providing specialist skills for the KBE.

Role of education in environmental awareness.

It is necessary to provide some balance to the arguments put forward thus far. One cannot simply say the capitalist educational systems provide no environmental awareness. Indeed, one of the benefits of the capitalist systems in Western countries (in various degrees along the capitalist-socialist spectrum) has been the money invested into academia and in particular science. The presence of an advanced and structured education and research system is a double-edged sword. It has both contributed to our present environmental degradation (development of polluting products and energy and material intensive productive modes and goods) and monitored and informed us of the state of our eco-systems and our relation to them. This is underlined by Lee (2006, p. 17) who reinforces that 'there are social conditions that facilitate the process of learning embodied in classical environmentalism: a scientific community that generates credible warnings of environmental harm'

Awareness arises, primarily, out of two functions. Knowledge is either accumulated through experience, namely individual empiricism over time, or is taught as fact through education. The first approach results in greater awareness, but is limited in that it relies on first hand experience, which for many functions in our lives is simply not possible (for example, the exportation of production to the periphery). The latter relies on the individual knowing how to relate and apply the knowledge to their actions and to the world around them. This process can be inhibited by norms established by the education system and society at large. There is little in the way of critique offered during education prior to higher education routes, of the contemporary political and economic systems we employ, and the way in which we conduct our lives and form our aspirations. What results is the introduction of knowledge which should force a re-appraisal of our norms, but is instead subsumed into the contemporary consumerist, competitive education route. Stevenson compares and contrasts the contradictory purposes of contemporary environmental education and traditional school education, with the former transforming values that lead to degradation, and the latter conserving

'the existing social order by reproducing the norms and values'(Stevenson 2007, p. 145), that have supported the status quo, further supporting the central tenets of the hypothesis. What is needed is for ecological harmony and social justice is 'an interdependent community (at both global and local levels), rather than the liberal, capitalist notion of a community of free or autonomous individuals without collective responsibility' (Stevenson 2007, p. 145), which is exactly what our current systems establish and sustain.

Conclusion

Our current education system at all levels, with its discrete, economically justified curricula, designed for the knowledge based economy, lacks any element for holistic approaches to global problems such as environmental degradation, instead promoting autonomous individualism, and does not provide the philosophical tools needed for self-examination and independent decision making. This view is supported by Stevenson (2007, p. 147), 'While environmental education advocates learning that is holistic and co-operative, school learning tends to be atomistic and individual'. Teaching in schools is servile to the curriculum as dictated by the influence of business, and necessitates a spoon-fed approach, which does not allow the formation of the ability for the 'generation' of ideas (Stevenson 2007, p. 147).

A conclusion of this article is that the involvement of government in education, in trying to achieve the conditions needed for capitalism to perpetuate, has removed the philosophical tools for learning and has debased it to merely serving the needs of the knowledge based economy. The aims and goals of contemporary western education, as dictated by capitalist needs, create tensions with the aims, goals and necessary critical philosophical tools of environmental education which is needed to translate environmental awareness in actions which promote sustainability and reduce degradation.

In terms of causes and reasons, certainly awareness is a reason, as is self-interest and other factors. A primary cause of environment degradation is the effects resulting from capitalist structural impacts upon the education system described in this article. To prevent environmental degradation, we need to change our system to reflect and instil the tools, norms and goals which are concurrent with recognising intrinsic value in our environment. We must further instil recognition of our symbiotic relationship with nature and the environment as outlined in philosophies such as Gaia and World and Earth Systems. These must be core aims in a post-Schumpeterian workfare state.

References

- Berger, J** 1994, 'The Economy and the Environment'. In Smelser, Niel J & Swedberg, Richard (eds.), *The Handbook of Economic Sociology*, Princeton University Press. Princeton.
- The City of London Academy** n.d.. *The Academy Initiative*, The City of London Academy, viewed 02/11/2007, <http://www.cityacademy.co.uk/about_academies.html>
- Dale, R** 1989, '*The State and Education Policy*', Oxford. Cited in Mulderrig 2003.
- Dale, R** 2005, 'Globalisation, knowledge economy and comparative education'. *Comparative Education*, vol. 41, No. 2, May 2005, pp. 117–149.
- Department for children school and families (DFES)** n.d., *Academies-sponsorship*, DFES, viewed 18/10/2007, <http://www.standards.dfes.gov.uk/academies/what_are_academies/sponsorship/?version=1>
- DFES** 2004, *Student loans and the question of debt*, DFES, viewed 01/11/07, <<http://www.dfes.gov.uk/hegateway/uploads/Debt%20-%20FINAL.pdf>>
- Engelbrecht, H-J** 2007, '*The (Un)Happiness of Knowledge and the Knowledge of (Un)Happiness: Happiness research and policies for knowledge-based economies*'. Paper presented to the International Conference Policies for Happiness, June 14–17, 2007, Certosa di Pontignano, University of Siena, Italy.
- Guardian Unlimited** 2007, *University heads warn of £10,000-a-year tuition fees*, James Meikle, Guardian Newspapers Limited, viewed 29/10/2007, <<http://education.guardian.co.uk/students/tuitionfees/story/0,,1992900,00.html>>
- The Labour Party**, n.d., *Labour in Government: Labour's policies on education*, The Labour Party, viewed 18/10/2007, <<http://www.labour.org.uk/education>>
- Lee, KN** 2006, 'Urban sustainability and the limits of classical environmentalism', *Environment and Urbanization*, vol. 18 (1):9-22. pp17.
- Milligan, S** 1978, 'A-levels', in *Hidden Words*, 1997, Penguin, London.
- Mulderrig, J** 2003, 'Consuming education: a critical discourse analysis of social actors in New Labour's education policy'. *Journal for Critical Education Policy Studies*, vol.1, no.1, March 2003, viewed 11/10/2007, <<http://www.jceps.com/?pageID=article&articleID=2>>
- Russell, B** 1918, *Roads to Freedom: Socialism, Anarchism and Syndicalism*, 4th edn, third impression, 1973, Unwin Books, London. pp115.
- Prospect** 2007, *What is the average graduate starting salary*, Prospect, viewed 01/11/2007, <http://www.prospects.ac.uk/cms/ShowPage/Home_page/How_much_could_I_earn_/Salary_and_vacancy_FAQs_2_/What_is_the_average_graduate_starting_salary_/p!eaLXbeX>
- Stevenson, R B** 2007, 'Schooling and environmental education: contradictions in purpose and practice', *Environmental Education Research*, 13:2, 139 – 153.
- Stokke, K** n.d, *The Schumpeterian workfare state*, University of Oslo, viewed 13/10/07,

<http://folk.uio.no/stokke/SGO2400/Forelesninger/3%3BGlobalisering&governance/tsld006.htm>

Ward, J 2007, 'Having the Information but what do you then do with it? The Scientific and Academic Communities'. In Cromwell, David and Levene, Mark (eds.), *Surviving Climate Change: The struggle to avert global catastrophe*, Pluto Press, London. Chap 8, pp.242.