

Environmental Progressivism: A Framework for a Sustainable Higher Education

Matthew Thomas

The University of Adelaide



A B S T R A C T

The underlying ideologies which support higher education have received only limited attention in relation to our desired goals of social and ecological sustainability. This paper examines the current ideologies which drive higher education, and proposes a different ideological framework which can be used to support a sustainable higher education. Firstly, a criticism of the current convergence of utilitarian and neo-liberal ideologies is presented from the perspective of sustainability. Secondly, building upon the educational theory of John Dewey, an alternative perspective termed "environmental progressivism" is outlined as a possible ideological framework for a sustainable higher education. The paper concludes with some preliminary remarks as to the practical implications of environmental progressivism.

Education has been emphasised in many international forums as essential to the realisation of sustainability, from the United Nations Conference on Environment and Development to the IUCN's vision for a sustainable future (IUCN, UNEP and WWF 1991, United Nations 1993). Until recently, there has been insufficient emphasis placed on the higher education sector, where the introduction of environmental education not been pervasive. Although there are increasing numbers of environment-related subjects and courses, the majority of university students graduate with no experience of how their careers and modes of living may be contributing to the environmental crisis. Indeed, our current forms of environmental education are limited to a few specialist areas, such as 'environmental law' or 'environmental engineering', and generalist areas such as environmental studies or environmental management programs. As David Orr (1992, p. 4) argues, it is often the most highly educated people who are responsible for environmental mismanagement. He continues:

modern education has certainly better equipped us to dominate nature rather than dwell in harmony with it and to understand things in fragments rather than think broadly about systems and ecosystems.

Orr perceives a challenge for educators in developing 'mindsets and habits that enable people to live sustainably on a planet with a biosphere'. He argues for a change in the purpose of higher education, away from purely professional development towards a broad social and environmental purpose.

Postman and Weingartner (1971, p. 195) assert that the broadest function of education, in any formulation, is to increase the survival prospects of a society. This first principle of education is one that is largely ignored in our current understandings of education, yet perhaps now, more than at any other time in our history, we need to embrace this fundamental purpose. Sustainability necessitates the integration of environmental and social purpose into all forms of education, and most importantly professional education.

Recently there have been efforts made to describe forms of higher education which contribute to social and ecological sustainability. Notably, UNESCO (1997) has released a report entitled *Educating for a Sustainable Future: A Transdisciplinary Vision for Concerted Action*. Further, the World Conference on Higher Education held in Paris in 1998 contained a thematic debate entitled *Preparing for a Sustainable Future: Higher Education and Sustainable Human Development* (UNESCO 1999). These documents and events have developed our understanding of how higher education can contribute to sustainability. However, there has been a lack of attention paid to the underlying ideologies of education, and the question of whether education can contribute to sustainability within the current ideological milieu remains relatively unexplored.

Ideology, for the purposes of this paper, is simply defined as the body of doctrine, myth and symbols which drives an institution. Ideology is a powerful force in relation to education, and especially in relation to an education which attempts to realign our societies towards sustainability. This paper contributes to our understanding of a sustainable higher education by developing a critique of current higher education ideology in Australia and outlining a possible supporting educational ideology.

This paper is broken into two main sections. The first section will present a critique of our current educational ideologies, and examine the convergence between utilitarian and neo-liberal ideologies. This section will illustrate how neo-liberalism offers some impetus for ideological reform in current higher education, but is ideologically inappropriate as a foundation for a sustainable higher education. The second section of this paper will examine how an alternative ideological orientation might better support a sustainable higher education. Based upon John Dewey's progressive educational ideology an 'environmental progressivism' is shown to be suited to the vision for a sustainable higher education. The paper concludes with some preliminary remarks on how the current policy platforms for higher education might be changed if they are informed by progressive values and assumptions.

The current convergence of educational ideologies

During the last decades an important debate has occurred, especially in the US, in relation to the current professional focus of higher education. In response to the economic and professional boom of the 1980s, commentators as diverse as influential educationalists Allan Bloom and E.D. Hirsch, as well as the then US Secretary of Education William, J. Bennet, called for a return to the virtues of a liberal educational ideology. Bloom perceived the existing education system as promoting singularly a highly specialised technical training and quite explicitly denouncing liberal ideologies. Bloom argued that this utilitarianism of higher education was resulting in a failed democracy and impoverished souls of students (Bloom 1987, pp. 338-339).

Criticisms of the narrow utilitarian focus of higher education on the acquisition of 'useful' professional skills and knowledge were by no means new, and had been put forward since the first adoption of the utilitarian ideal in the nineteenth century. Oxford University reformer Benjamin Jowett argued in the mid-nineteenth century that students who had taken studies with no connection to any profession, but merely served to open and enrich the mind, would be found to be much better in professional life than those who specialised at an early age (cited in Sanderson 1975, p. 98). More recently Coombs (1982), in a paper which has provided some impetus for the theoretical development of lifelong learning, suggests that one of the critical educational challenges for the next century is the development of closer ties between learning and day-to-day life: the integration of education and culture, and linking education to peace and the preservation of the earth's ecosystems. Furthermore, as Sherrington (1983, p. 31) has discussed, during the 1980s higher education was seen to include a new moral aim, whereby the new professional was expected to have not only the skills of their particular trade, but also a wider understanding of the world, and the social role of their profession.

'Recent higher education review and policy documents explicitly urge a change in focus of higher education away from a narrow utilitarianism'

This debate over the current professional focus of higher education can be seen as a strong impetus for ideological reform. Recent higher education review and policy documents explicitly urge a change in focus of higher education away from a narrow utilitarianism. The recent report from the Australian Review Committee on Higher Education Financing and Policy (the so called West Review) attempts to clearly define the current role of Australian higher education, and provide some strategic vision for the next century. Entitled *Learning for Life*, the report builds upon a growing focus on lifelong learning, and states that the conventional three-fold

purpose of higher education, to preserve, transmit and expand on the domain of knowledge, must be replaced by a role amenable to our current knowledge-based society. The report proposes an outcome-orientated purpose for higher education, which is to furnish each graduate with the following attributes:

- the capacity for critical, conceptual and reflective thinking in all aspects of intellectual and practical activity;
- technical competence and an understanding of the broad conceptual and theoretical elements of his or her fields of specialisation;
- intellectual openness and curiosity, and an appreciation of the interconnectedness, and areas of uncertainty in current human knowledge;
- effective communication skills in all domains (reading, writing, speaking, and listening);
- research, discovery and information retrieval skills and a general capacity to use information;
- multifaceted problem solving skills and the capacity for teamwork; and
- high ethical standards in personal and professional life, underpinned by a capacity for self-directed activity (The Review Committee on Higher Education Financing and Policy 1998, p. 47).

This refocusing of higher education presents a significant move away from a utilitarian ideology which is characterised by a closed discipline, or profession-based, education that seeks to impart or transmit the relevant technical skills and knowledge. However, the West Review frames higher education solely in terms of the individual graduate. By concluding only that the higher education sector should 'enable its graduates to emerge with the skills and knowledge to that will meet the economic, social and environmental challenges of the twenty-first century' no actual social purpose is made explicit.

The final report of the National Review Committee of Inquiry into Higher Education in the UK, (the Dearing Report), makes a slightly less individualistic convergence between liberal and utilitarian ideology. It is stated that the purpose of higher education is:

- to inspire and enable individuals to develop their capabilities to the highest potential levels throughout life, so that they grow intellectually, are well equipped for work, can contribute effectively to society and achieve personal fulfilment;
- to increase knowledge and understanding for their own sake and to foster their application to the benefit of the economy and society;
- to serve the needs of an adaptable, sustainable, knowledge-based economy at local, regional and national levels; and

to play a major role in shaping a democratic, civilised, inclusive society (National Review Committee of Inquiry into Higher Education 1997).

While some social purpose for higher education is made explicit in the latter statement of purpose, both documents shape educational reform around the individual. Achieving personal and economic growth is paramount, and reform is still restrained by an overt economic rationalism. These characteristics form part of what is termed conservative neo-liberal ideology.

Also common to both reviews is the emphasis on lifelong learning. Lifelong learning has been the focus of much theoretical and policy exploration during the 1980s and 1990s. Throughout the lifelong learning literature, parallels are drawn with liberalism, and Knapper and Cropley (1991, p. 38) describe liberal education as 'an early blueprint for lifelong learning'. Candy *et al.* (1994, p. 43) in a major Australian work on lifelong learning define a lifelong learner as exhibiting the following qualities or characteristics to some degree:

An Inquiring Mind

- a love of learning;
- a sense of curiosity and question asking;
- a critical spirit;
- comprehension-monitoring and self-evaluation;

Helicopter Vision

- a sense of the interconnectedness of fields;
- an awareness of how knowledge is created in a least one field of study, and an understanding of the methodological and substantive limitations of that field;
- breadth of vision;

Information Literacy

- knowledge of major current resources available in at least one field of study;
- ability to frame researchable questions in at least one field of study;
- ability to locate, evaluate, manage and use information in a range of contexts;
- ability to retrieve information using a variety of media;
- ability to decode information in a variety of forms: written, statistical, graphs, charts, diagrams and tables;
- critical evaluation of information;

A Sense of Personal Agency

- a positive concept of oneself as capable and autonomous;
- self-organisation skills (time management, goal setting etc);

A Repertoire of Learning Skills

- knowledge of one's own strengths, weaknesses and preferred learning style;
- range of strategies for learning in whatever context one finds oneself; and
- an understanding of the differences between surface and deep level learning.

This definition of the constituent elements of lifelong learning draws on cognitive learning theory and the various explorations of the development of higher-order learning outcomes and thinking skills of recent educational research. While the skills identified by Candy *et al.* each stem from a long history of educational research, and indeed most have been discussed in relation to their potential in higher education, together and alone they also fundamentally subscribe to a neo-liberal ideology. As Bowers (1988, 1993) has suggested, the tenets of modernism deeply embedded within the current higher education reforms serve to reinforce an individualistic consumer-driven lifestyle and a technocentric approach to environmental problem-solving. Furthermore, as Jones (1989, p. 82) suggests, neo-liberal education is seen to preserve a rigid distinction between high-status academic knowledge, and low-status practical knowledge and skills. The policy rhetoric that surrounds the push for lifelong learning embodies all that has been criticised in neo-liberal ideology. As one recent document examining lifelong learning states:

the key to economic and social improvement lies in having a population that is adaptable, flexible, well educated and attuned to the need for lifelong learning (National Board of Employment Education and Training 1996).

This explication of lifelong learning makes the individual subordinate to a quasi-social purpose - the economy. As Apple (1996, p. 38) states emphatically:

the politics of official knowledge...cannot be understood in an isolated way. All of this needs to be situated directly in larger ideological dynamics in which we are seeing an attempt by a new hegemonic bloc to transform our very ideas of what education is for. This transformation involves a major shift - one that Dewey would shudder at - in which democracy becomes an economic rather than a political concept, and where the idea of the public good withers at its very roots.

The economic rationalism inherent in neo-liberal ideology emerged as a new purpose of education in the 1960s. At this time the argument was put forward that education should be regarded as an investment that yields significant economic benefits through increasing the skills of the population, and accelerating technological progress (Alomes 1983, p. 45). This economic role for higher education has continued through to the 1990s, and will continue beyond (Baldwin 1990, p. 38). The equation of the economy with a new morality, inherent in the current forms of ideological reform, further reinforces the arguments against the virtue of a liberal ideology. It is possible to conceive the emerging educational ideologies as an extension, or remnant, of the underlying conservatism in higher education. Further, their utility in promoting environmental degradation is apparent, and are therefore incompatible with sustainable modes of living.

While the current neo-liberal ideology is fundamentally flawed in relation to a sustainable higher education, some of the

original tenets of educational liberalism can inform the ideology of a sustainable higher education. In general terms, liberalism embodies a shift in emphasis away from the utilitarianism of purely professional education, and towards a more social and humanistic focus. Educational liberalism is concerned with the context in which education exists, rather than merely learning which is abstracted from our social existence. Further, there exists a strong emancipatory tradition within liberal educational ideology, although much of this has been lost in the current conservative neo-liberalism. In the original formulations of educational liberalism, education was seen as a means of empowering students to take responsibility for their own actions and realising their own desired futures. Finally, the liberal education tradition emphasises the role of education as a social force. More specifically, educational liberalism holds that education plays an essential role in the development of citizens skilled in responsible socio-democratic action.

‘Practically, socio-democratic action speaks of re-investing responsibility in the community’

The notion of socio-democratic action can play a fundamental role in the supporting ideology of a sustainable higher education, and is used here with a specific set of implications. Politically, socio-democratic action forms part of a social democracy, but one which stresses an active civil society and egalitarian participation in social action. These ideas have recently been explored in detail by Anthony Giddens (1998) in his construction of the ‘third way’ programme for a renewed social democracy. Practically, socio-democratic action speaks of re-investing responsibility in the community. The assumption here is that the most effective route towards sustainability is through the actions of communities which drive their own existence in a democratic manner. Thus, within the socio-democratic conceptualisation of sustainability, our activities as individuals are governed by principles of social and ecological responsibility.

While these basic tenets of educational liberalism are important for a sustainable higher education, both the political ramifications of liberalism and its current resurgence in neo-liberal ideology seem more aligned with forces which have shaped our current ecological crisis. For this reason, I suggest that there may be some value in exploring an alternative supporting ideology for a sustainable higher education. This ideology can draw much from a progressive educational ideology, which holds many of the basic tenets of liberalism while being less politically problematic for a sustainable higher education.

As a generic political theory, progressivism is more compatible with the desired outcome of social and ecological sustainability. The fundamental project of progressivism is that of social and cultural improvement (Bullock & Stallybrass

1977, p. 500). While the term may imply a belief in ‘progress’ this need not equate to the technocentric and economic views of progress which grip our current cultural milieu. In short, progressivism maintains that there is a need to reform our social structures and our everyday way of life, towards a constant goal of improvement of the human condition. Educational progressivism takes education to be an essential element in the realisation of progressivism’s broad agenda. As with educational liberalism, educational progressivism rejects a narrow utilitarian focus of education, and promotes the role of education as a social force.

Environmental Progressivism: An Ideological Framework for a Sustainable Higher Education

Discussion of any reform towards a more democratic and socially transformative focus for education can draw much from John Dewey’s writings on education. Dewey’s progressivism includes many values and assumptions which can be used to develop the framework of a sustainable higher education. This section will introduce some pertinent aspects of Dewey’s educational thought which can inform an alternative to current neo-liberal ideology.

On a very basic level, Dewey advocates a form of education that integrates a professional and social purpose, and seeks to make education more active as a social force. The term ‘democratic progressivism’ is often used to describe Dewey’s educational ideology as it is fundamentally concerned with education as a site for democratic social reform. Dewey envisions an education system that develops in the individual social and political literacy and competence, and one which contributes to the realisation of a truly democratic society. For Dewey, the greatest enemy to democratic practice is the separation of humanistic education for the elite, and vocational training for the masses. He states quite explicitly that democratic societies must move forward towards a course of study that is useful and humanistic at the same time (Dewey, cited in Biosvert 1998, p. 109).

For Dewey, this mix of progressive and utilitarian educational practice involves a perception of education which centres around the ‘the process of forming fundamental dispositions...toward nature and fellow men’ (as cited in Fankena 1965, p. 141). The purpose of education is the formation of a citizenry who has both appropriate vocational skills, and a strong democratic, social and moral understanding. The primary role of education for Dewey is to develop people in which benevolent impulse founded on a detailed ethical substrate meets with intelligent reflection to produce conduct that is good (Dewey 1960, p. 163). Furthermore, Dewey draws from the pragmatic tradition the re-framing of the individual, such that individual interests are curtailed in favour of the common (Dennis & Knapp 1997, p. 6). Within this framework, our societies are shaped by socio-democratic action, which is defined as groups, or communities, working in a democratic fashion to envisage and realise their desired futures.

Of further relevance to a form of progressive education that can contribute to sustainability, Dewey states in *My Pedagogic Creed* that 'education is the fundamental method of social progress and reform' (Dewey 1959, p. 30). He conceives a universal education that provides a moral framework, and instils the knowledge and skills necessary for effective participation in society. Furthermore, education is seen as essential to creating empowered citizens whose functions and actions as elements of a society are governed by the cognitive, affective and behavioural aspects of their education, towards both a moral and social end. It is evident that Dewey realises the far-reaching impacts of education, and holds that its formative influence can be utilised to shape broad social change.

These basic premises upon which Dewey's work is founded are essential to the formulation of a sustainable higher education. They contrast sharply with the individualism and economic rationalism inherent in current higher education ideology. Progressivism suggests higher education primarily serves a fundamental social purpose, and thus has an obligation to develop purposefully moral citizens.

In a recent review of John Dewey's collected works a number of other elements of his form of progressivism were highlighted as important to environmental education. Central to Dewey's thought is the interconnected nature of science, education and society. To this end Dewey suggests that science must acknowledge its social implications and responsibilities. Similarly, Dewey criticises the manner in which modern education tends towards the study of objects in isolation of their social and ecological contexts common (Dennis & Knapp 1997, pp. 6-7). Dewey's framework for education involves study which is relevant and applicable to the society, not in terms of subject matter, but in terms of providing the knowledge, attitudes and skills for effective social participation.

Dewey encapsulates these ideas in the notion of 'occupation'. In Dewey's vision for the democratic society, education and vocation form an on-going symbiosis, resulting in a life of meaningful activity (Quicke 1996, p. 49). An occupation involves both professional and social practice, and is a constant learning process. This idea is similar to that of lifelong learning. However, within the context of Dewey's thought, the emphasis lies with social rather than personal and economic benefit. Dewey's ideas here are very similar to those found in Marx's criticisms of the alienation of people from the products of their labour, and Dewey's thought has been shown to share much with Marx's ideologies (Brooks 1994).

Although Dewey's vision for a socio-democratic education cannot be given extended analysis in this paper, the elements drawn out above provide a productive framework a sustainable higher education. Dewey's vision of a progressive education involves learning which aims to produce a benevolent and empowered citizenry, orientated towards to common social good. Further, education must be situated in, rather than abstracted from, its broader social and ecological contexts.

In short, using Dewey's contribution to educational thought and practice, it is possible to formulate a new environmental progressivism which has the potential to achieve a sustainable form of education, and an education that contributes towards sustainability. Environmental progressivism seeks to re-establish a broad social purpose for higher education across all disciplines. This social purpose necessarily includes an ecological orientation, and equates ecological integrity with social exigency. As with other forms of progressive education, a focus on citizenship skills is an integral element, and seeks to integrate utilitarian elements within a social and ecological context. To this end, higher education is subtly re-conceptualised to include both professional and social development, with an explicit ecological foundation. Thus higher education serves to develop a democracy founded upon an empowered citizenry who are able to enact social change towards sustainability.

'Environmental progressivism seeks to re-establish a broad social purpose for higher education across all disciplines'

There has already been some activity, both theoretical and practical, towards the realisation of these forms of ideology within environmental education (e.g. Schwartz 1987, Aper 1993). As early as the mid 1970s, environmental authors such as Roderick Nash (1976) called for a move towards a broad and fundamental environmental focus for a humanistic general education. During the 1990s there has been some moves towards the use of a progressive ideology to develop a cross-curriculum environmental education, with an example being David Orr's (1990) suggestion of a humanistic rationale for incorporating environmental concerns into the curricula of higher education. However, this driving force for a progressive focus for environmental education still comes from the environmental and environmental education movement. Indeed, as D'Urso (1990, p. 92) argues, the environmental crisis is curiously neglected by socio-cultural theorists of education.

Conclusion: Towards the realisation of environmental progressivism

This paper has examined the underlying ideologies which shape our institutionalised forms of education. In response to the inadequacies of current neo-liberal ideological reforms, it has been shown that progressivism can inform the ideological framework of a sustainable higher education. Environmental progressivism sees higher education as serving an explicit social purpose, and seeks to empower graduates as socio-democratic transformers of their societies. Environmental progressivism rejects the modernist principles of economic rationalism, instrumental rationalism and extreme individual autonomy inherent in neo-liberal ideology. It focuses on the

contexts and purpose of education and seeks to facilitate a form of learning where students can work together to actively transform their societies.

It is essential that we examine closely our current ideology, and seek to unmask the dangerous assumptions which drive higher education policy and practice. This paper has offered environmental progressivism as one possible alternative perspective which might better support a sustainable higher education. However, it would be naïve to suggest that environmental progressivism is an ideology that can simply be 'put into practice'. An ideology is an emergent feature of practice and itself must be socio-democratically constructed. Therefore, environmental progressivism should be seen as a framework which can assist in heightening ideological awareness and guide the reform of higher education policy and practice.

The implications of environmental progressivism on current policy and practice are manifold. On a very basic level, the adoption of progressive values would mean a greater emphasis being placed on personal and social development in contrast to the current focus of economic development. In a more practical sense, it would necessitate a shift away from the knowledge-based curriculum, towards forms of education which deal adequately with attitudes, values, ethics, and beliefs. Similarly, progressive education would necessitate active, socially critical and participatory forms of teaching and learning.

It is important to note that each of these implications of progressivism offer nothing which is really new to environmental education. Indeed, the practical manifestations of progressive ideology are perennial elements of more radical threads of the higher education reform agenda. However, I would argue that the slow progress being made in relation to the realisation of a sustainable higher education is due largely to the stifling effects of our current ideological milieu. Ideology is an extremely powerful force yet it is often taken for granted. Unless we attack the fundamental values and assumptions which drive current higher education, sustainable reform will continue to be difficult to achieve. I hope the ideas presented in this paper may stimulate some further critical analysis of the underlying ideologies of our current higher education systems and encourage further development of alternative ideologies which can support the realisation of a sustainable higher education. ☺

Acknowledgements

Thanks go to Associate Professor Ken Dyer, Dr Sandra Taylor and Associate Professor Robert Cannon at The University of Adelaide for their thoughtful feedback. Similarly, thanks to Noel Gough and Peter Corcoran for their suggestions as to the problematic nature of liberalism which resulted in a fundamental reorientation of this paper. Thanks also to the referees who provided invaluable feedback. This paper is builds upon a paper presented at the 1999 AARE conference.

References

- Alomes, S. 1983, 'The University and Society in the Twentieth Century - Autonomy and Dependence', *Curriculum Priorities in Australian Higher Education*. Fielding, A. J. and Cavanagh, D. M. (Eds.), Croon Helm Australia, Canberra, Australia, pp. 27-37.
- Aper, J. 1993, 'Integrating the Ends and Means of Education: Environmental Studies as a Framework for Liberal Learning', *International Journal of Environmental Education and Information*, vol. 12, no. 4, pp. 307-314.
- Apple, M. W. 1996, *Cultural Politics and Education*, Open University Press, Buckingham, UK.
- Baldwin, G. 1990, 'Teaching in Australian Tertiary Institutions: Possible Effects of Federal Government Policies', *The Changing Face of Professional Education*. Bezzina, M. and Butcher, J. (Eds.), Australian Association for Research in Education, Sydney, Australia.
- Biosvert, R. D. 1998, *John Dewey: Rethinking Our Time*, State University of New York Press, Albany, USA.
- Bloom, A. 1987, *The Closing of the American Mind: How Higher Education Has Failed Democracy and Impoverished the Souls of Today's Students*, Simon and Schuster, New York, USA.
- Bowers, C. A. 1988, *The Cultural Dimensions of Educational Computing Understanding the Non-Neutrality of Technology*, Teachers College Press, Columbia University, USA.
- Bowers, C. A. 1993, *Education, Cultural Myths and the Ecological Crisis: Towards Deep Changes*, State University of New York Press, Albany, USA.
- Brooks, W. 1994, 'Was Dewey a Marxist?', *Discourse*, vol. 13 <http://www.stlawrenceinstitute.org/vol13brk.html>.
- Bullock, A. & Stallybrass, O. (Eds.) (1977). *The Fontana Dictionary of Modern Thought*. Fontana Books, London.
- Candy, P. C., Crebert, G. and O'Leary, J. 1994, *Developing Lifelong Learners through Undergraduate Education*, National Board of Employment, Education and Training, AGPS, Canberra, Australia.
- Coombs, P. H. 1982, 'Critical World Educational Issues of the Next Two Decades', *International Review of Education*, vol. 28, pp. 143-157.
- Dennis, L. J. & Knapp, D. 1997, 'John Dewey as Environmental Educator', *Journal of Environmental Education*, vol. 28, no. 2, pp. 5-9.
- Dewey, J. 1959, 'My Pedagogic Creed', *Dewey on Education*. Dworkin, M. S. (Ed.), Bureau of Publications, Teachers College, Columbia University, New York, USA.
- Dewey, J. 1960, *Theory of the Moral Life*, Holt, Rinehart and Winston, Inc., New York, USA.
- D'Urso, S. 1990, 'Editor's Note', *Discourse*, vol. 10, no. 2, pp. 92.

- Fankena, W. K. 1965, *Three Historical Philosophies of Education: Aristotle, Kant and Dewey*, Scott, Foresman and Company, Glenview, USA.
- Giddens, A. 1998, *The Third Way: The Renewal of Social Democracy*, Polity Press, Cambridge, UK.
- IUCN, UNEP and WWF 1991, *Caring for the Earth: A Strategy for Sustainable Living*, IUCN, Gland, Switzerland.
- Jones, K. 1989, *Right Turn: The Conservative Revolution in Education*, Hutchinson Radius, London, UK.
- Knapper, C. K. and Cropley, A. J. 1991, *Lifelong Learning and Higher Education*, Kogan Page, London, UK.
- Nash, R. 1976, *Logs, Universities and the Environmental Education Compromise*, ERIC Information Analysis Centre for Science, Mathematics and Environmental Education, Columbus, USA.
- National Board of Employment Education and Training 1996, *Lifelong Learning: Key Issues*, Australian Government Publishing Service, Canberra, Australia.
- National Review Committee of Inquiry into Higher Education 1997, *Higher Education in the Learning Society*, National Review Committee of Inquiry into Higher Education, UK.
- Orr, D. W. 1990, 'The Liberal Arts, the Campus and the Biosphere', *Harvard Educational Review*, vol. 60, no. 2, pp. 205-216.
- Orr, D. W. 1992, 'The Problem of Education', *The Campus and Environmental Responsibility*. Eagan, D. J. and Orr, D. W. (Eds.), Jossey-Bass, San Francisco, USA, pp. 3-8.
- Postman, N. & Weingartner, C. 1971, *Teaching as a Subversive Activity*, Penguin Books, Harmondsworth, UK.
- Quicke, J. 1996, 'Work, Education, and Democratic Identity', *International Studies in Sociology of Education*, vol. 6, no. 1, pp. 49-66.
- Sanderson, M. 1975, *The Universities in the Nineteenth Century*, Routledge and Kegan Paul, London, UK.
- Schwartz, A. M. 1987, 'A Liberal Arts Model for Environmental Education: The First Fifteen Years of the Environmental Studies Program at St. Lawrence University', *Environmental Professional*, vol. 9, no. 3, pp. 244-246.
- Sherrington, G. 1983, 'An Uneasy Alliance - Liberal and Vocational Ends in the Australian University System - The Impact of Teacher Training', *Curriculum Priorities in Australian Higher Education*. Fielding, A. J. and Cavanagh, D. M. (Eds.), Croon Helm Australia, Canberra, Australia, pp. 27-37.
- The Review Committee on Higher Education Financing and Policy 1998, *Learning for Life*, DEETYA, Commonwealth of Australia, Canberra, Australia.
- UNESCO 1997, *Educating for a Sustainable Future: A Transdisciplinary Vision for Concerted Action*, UNESCO, Paris, France.
- UNESCO 1999, *Preparing for a Sustainable Future: Higher Education and Sustainable Human Development*, UNESCO, Paris, France.
- United Nations 1993, *Agenda 21: The United Nations Program of Action from Rio*, United Nations Publications, New York, USA.