# Education and Training for Sustainable Tourism: Problems, Possibilities and Cautious First Steps

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**Abstract**

Tourism is the fastest growing industry in the world, and its environmental impacts are so great that the achievement of sustainable tourism would seem to integral to the achievement of sustainable development. Tourism impacts are wide-ranging, are perceived differently by different interest groups, and are subject to extensive uncertainty. However, there appears to be widespread agreement that education has, at the very least, an important role to play in the achievement of sustainable tourism. In this paper a possible theoretical approach to education for sustainable tourism is advanced, and a small scale research project based upon this approach is described. The project sought to integrate education for sustainable tourism into an established management curriculum using an innovative technique based on the idea of an "adaptive concept." Following the collection and analysis of both qualitative and, to a lesser degree, quantitative data, it was concluded that gains might legitimately be claimed in terms of criteria drawn from the perspectives of both environmental education and management education.

**Résumé**

Le tourisme est l'industrie qui connaît la plus forte croissance dans le monde. Ses incidences environnementales sont si importantes que la réalisation du tourisme durable devrait faire partie intégrante du développement durable. Les répercussions du tourisme sont vastes, sont perçues différemment par les divers groupes d'intérêt et sont entourées d'une grande incertitude. Cependant, il semble régner un large consensus à savoir que l'éducation a, tout au moins, un rôle prépondérant à jouer dans la concrétisation du tourisme durable. Dans cet exposé, il est question d'une approche théorique potentielle de l'éducation en vue du tourisme durable et de la description d'un

projet de recherche à petite échelle fondé sur cette approche. Ce projet visait à intégrer l'éducation en vue du tourisme durable dans un programme de gestion établi, au moyen d'une technique novatrice basée sur l'idée d'un " concept adapté ". Suite à la collecte et à l'analyse de données qualitatives et, à un degré moindre, quantitatives, il a été conclu que des avantages pouvaient légitimement découler des critères tirés des perspectives tant de l'éducation relative à l'environnement que de la formation en gestion.

Global tourism is the world's biggest and fastest growing industry (Filion, Foley, & Jacquemot, 1994). To many governments the expansion of tourism appears to be a very attractive method of achieving economic growth. Potential hard currency earnings for successful host countries are large. The expectation of such earnings is central to the development plans of a number of small states (Cater, 1995), and an important component in the strategies of many larger ones. Other advantageous aspects of tourism growth may include the creation of (often usefully decentralised) employment, enhanced tax revenues, a stimulus to conservation efforts, the attraction of inward foreign investment, and the creation of economic and recreational infrastructure for local use (Alderman, 1994; Pleumarom, 1994).

Ecotourism is an increasingly important segment of the total tourism industry. While doubts seem likely to persist about the meaning, or even the possibility of sustainable tourism, it should be clear that ecotourism is not necessarily sustainable. Ecotourism has been estimated to account for between 40-60% of international tourism and at least 25% of domestic tourism. Annual economic impacts from ecotourism may be as much as US$ 1.2 trillion (Filion, Foley, & Jacquemot, 1994). However, doubts about these figures arise not only from problems of data collection and processing, but also from the lack of any universal definition of ecotourism. In particular, there is a tendency for definitions to widen as the perception grows among host governments and tour operators that an ecotourism label can aid marketing. From an academic perspective, the term has been defined simply in terms of what the tourist sees and does (Filion, Foley, & Jacquemot, 1994; Croall, 1995) and with additional references to the environmental and cultural impacts the tourist has (Tickell, 1993). The Ecotourism Society, based in Virginia, USA, includes in its definition a requirement that the well-being of local people be sustained (Johnson, 1998, p. 9; Roberts, 1998, p. 16). Sustaining well-being is not necessarily the same thing as conserving culture, though the two could go hand in hand.

Ecotourism appears to be a highly segmented market, in which the following categories may be found: rough ecotourists, smooth ecotourists, specialist ecotourists, scientific tourists, cottage tourists, wildlife tourists, wilderness tourists, safari tourists, designer tourists, risk tourists, adventure tourists, alternative tourists, sensitive tourists and post-industrial tourists (Cater & Goodall, 1992; Mowforth, 1993). The important point, however, is that all such tourists are participants in a global, multi-billion dollar business which, to a greater or lesser extent, both shapes the environment and consumes it (Goodall, 1995). There is no such thing as zero-impact tourism (Lawrence, 1994).

Of course, attempts may be made to control the impacts tourism has, but even if the contribution made to global environmental change by the transport associated with tourism is ignored, concepts such as "tourism carrying capacity" are extremely difficult to operationalise. The attempt to satisfy the yearning of many who consider themselves ecotourists for pristine or traditional environments may be self-defeating and lead to progressive encroachment into remote areas, since once a place is easy to visit much of its appeal may be lost (Cater & Goodall, 1992; King, 1993). Ecotourist excursions of a few days duration, or less, are often mounted from bases in luxury hotels, and constitute only a fraction of total holiday time. For all of these reasons it may not, in the end, be very helpful to distinguish ecotourism from the mainstream. This is not to say that environmentally-responsible tourism is impossible. However, very little is accomplished by establishing definitional criteria for "ecotourism" if these are widely ignored, or if those activities which are denied an ecotourism label continue regardless. In this context it is interesting to note that at least one developing country Tourism Board, that of Sarawak in East Malaysia, now aims for tourism development that protects the Borneo rainforests, but deliberately avoids the term "ecotourism" in its marketing effort (Johnson, 1998). Further, the essential requirement for the achievement of sustainable development is that all tourism be made as sustainable as possible, not that more tourists spend their time marvelling at nature. A respectable case can even be made that sustainability may sometimes be better promoted by the construction of *artificial* destinations (Roberts, 1998), rather than by facilitating visits to the real thing.

Among the more obvious environmental impacts of tourism are waste generation and pollution, damage to coral reefs, mangroves, dunes, historic buildings and monuments, erosion, deforestation, and so on. Less obvious effects include contributions to ozone depletion and global warming, the economic marginalization of traditional users of protected areas, destruc-

tion or trivialisation of traditional lifestyles (Croall, 1995; Hong, 1985), and increases in crime and prostitution. Additionally, many of tourism's advantages can also bring considerable costs. For example, a large proportion of hard currency spending in developing countries finds its way back to the developed world as payment for imported goods and services. Management jobs in tourism in developing countries are often held by foreign nationals, while those tourism employment opportunities which are created for locals are frequently seasonal, and may alter the labour economics of the domestic agricultural sector (Lawrence, 1994). Finally, evaluations of sustainability are complicated by issues of scale. For example, what is judged to be acceptable and appropriate as a sustainable initiative nationally, may prove disastrous for a particular locality. Cost and revenue effects of changes in the environmental behaviour of tourism firms vary across different time-scales, and energy savings or emission reductions per tourist may still mean increased energy use and pollution as total tourist volumes rise (Goodall, 1995).

## Education, Training, and Tourism

It is widely agreed that education and training are important to the achievement of sustainable tourism (Cater & Goodall, 1992; Ham Sutherland, & Meganck, 1991; Johnson, 1998) and sustainable development (UNESCO-UNEP, 1996). Unfortunately, there is much less agreement about who should learn what, from whom, and how. This is perhaps unsurprising, given that tourism probably touches, at all levels, upon a wider range of social interests and economic sectors than any other industry (Cater, 1995), and given that most academic disciplines have a bearing of some sort on the question of how to make tourism sustainable.

Ham, Sutherland, & Meganck (1991) identify four key audiences for environmental *interpretation* in developing countries as subsistence-level locals, upper and middle-class nationals, influential nationals, and foreign tourists. They make the point that the environmental learning needs of each of these groups are different. Taking a broader view of tourism, a number of other target groups for sustainable tourism education and training suggest themselves, including employees and managers in the hospitality, travel and construction industries, government officials in host countries, potential tourists at their point of origin and, of course, children at school who may assume these or other roles in the future. Each of these groups is likely to have a different perspective on the environment and sustainability, and a different expectation of what education, in its widest

sense, might offer them. Many are likely to believe that they have more to teach than to learn. However, different groups have different access to the power and resources to enable them to put their own analysis forward, and are likely to marshal definitions of terms, moral arguments and scientific evidence in ways which support their existing view of the problems and priorities. Environmental educators and trainers, therefore, must address an heterogeneous audience among which a variety of preconceived ideas relating to tourism and tourism development are likely to be held. Further, it seems clear that uncertainty and contestation, even about the meaning of "sustainable tourism," are likely to persist for the foreseeable future. Equally clearly, environmental education and training which helps to create and support sustainable tourism is needed now.

### Environmental Education: Determining an Approach

A further problem is that, despite the existence of a tentative consensus on:

- the desirability of certain characteristics for environmental education, for example holism (Sterling, 1993);
- a life-long educational approach (UNESCO-UNEP, 1977);
- a consideration of values as central to any programme (Caduto, 1985); and
- a focus on the future (Hicks, 1996) there is substantial disagreement about what exactly the goals of environmental education should be (e.g. Fien, 1993; Hungerford & Volk, 1990), and how they might relate to sustainable development (Huckle & Sterling, 1996).

For example, the goal of "environmentally-affirmative citizenship" (Hungerford & Volk, 1984) may seem useful as a basis for the environmental education of domestic tourists in rich countries and also, perhaps, of local tourism managers in developing countries. Socially-critical environmental education, which rejects this approach and emphasises instead egalitarianism, political decentralisation, the reversal of industrialisation and growth, and the abandonment of consumerism, may be appropriate elsewhere. Critically-theorised action research has lead to successful educational and political direct action in countries with a liberal tradition, for example the protection of beaches (Greenall Gough & Robottom, 1993). Such action research may also be an effective method for extension work with displaced indigenous groups (Gough, 1995). However, neither approach seems wholly appropriate, by itself, to situations of the kind in which, say, a multinational hospitality concern obtains political approval in a developing

country to set up a joint-venture with local entrepreneurs, and engages a foreign contractor to develop a major international resort using a labour mix of local people, nationals from other regions of the country, and immigrants on short-term contracts. This is particularly so given the observation of Jensen and Schnack (1997) that environmental education initiatives should be evaluated on the basis of their educational value to learners rather than their success in solving society's problems. In such a situation potential learners have different starting points and different expectations.

## Cultural theory: Developing a "Clumsy" Approach

There seems, therefore, to be a need for a theoretical device which permits environmental education processes to continue in the face of contradictory perceptions of their purpose. Such a device is "cultural theory" (Thompson, Ellis, & Wildavsky, 1990) which has been developed from the work of the cultural anthropologist, Mary Douglas (1982).

An approach from cultural theory starts from the observation that human knowledge, both of the natural environment and of human interactions with it, is imperfect and characterised by uncertainty and risk (James & Thompson, 1989; Thompson, 1990). In the face of this uncertainty and risk, social actors construct their interpretations of environmental reality. It is instructive to visualise such interpretations as lying within a range bounded by four archetypes:

- the fatalistic interpretation;
- the hierarchical interpretation;
- the individualistic interpretation and;
- the egalitarian interpretation.

These archetypes, in turn, represent possible combinations across two dimensions of social organisation: Equality/inequality and competition/no competition (See Figure 1). Hence, the fatalist visualises the social and natural worlds as competitive and unequal, but for the individualist they are competitive and equal; and, while the expectations of the hierarchist are built upon assumptions of inequality and uncompetitiveness, those of the egalitarian assume, rather, uncompetitiveness with equality. Each archetype is further associated with a particular "myth of nature." For the fatalist, nature is capricious; for the individualist, it is benign. Hierarchists suppose nature to be benign within certain limits, but perverse if those limits are exceeded. Finally, egalitarians view nature as ephemeral, a delicate equilibrium which may be easily and irretrievably destroyed.


Figure 1. Four archetypal constructions of environmental reality. (Adapted from James and Thompson, 1989)

Which interpretation and which myth of nature an individual is likely to favour depends on whether his or her "social solidarity" (Thompson, 1997, p.144) in the specific context under consideration, is individualist, hierarchist, egalitarian or fatalist. Solidarities, and therefore interpretations, may shift repeatedly over time and in response to changes of social context such as that from, say, workplace to family home. However, each of the four is seen as defining itself in contradistinction to the others and, therefore, of being incapable of sustaining itself without them, i.e., each view needs a perceived threat from the others if it is itself to make sense. Thompson (1997) writes:

> Humans, individualists know, are *self-seeking*; hierarchists know they are *malleable* (born in sin but redeemable by firm and nurturing institutions); egalitarians know that they are *caring and co-operative* until corrupted by coercive institutions (markets and hierarchies); fatalists know they are *fickle*. (p. 145, original emphasis)

Hence, disagreement, competition and even conflict between rival individuals and groups is not a social aberration but, on the contrary, an essential characteristic of society's uncertain relationship with its environment. Useful interventions are, therefore, most likely to originate with "clumsy institutions" (Thompson, 1990). These are so called because, rather than being committed to one of the four perspectives, they are prepared to entertain all of them. The reward such institutions may reap for tolerating a degree of apparent internal inconsistency is the discovery of synergy's between opposed views.

From the points of view of ethnographic educational research, curriculum theory and environmental education, the idea of socially-constructed, context-specific knowledge is not at all new (Fien, 1993; Kemmis, Cole, & Suggett, 1983; Wolcott, 1988), but cultural theory argues that the ways in which knowledge may be constructed are not infinitely variable. Rather, they derive from interplay between the four ideal types of social organisation. Schwarz and Thompson (1990, p. 61) write, "An act is rational if it supports a person's way of organising." This analysis seems likely to be useful in designing and introducing an educational innovation under complex social circumstances (such as those attending sustainable tourism development) if it enables anticipation and prior classification of (at least) most of the range of eventual responses. A further attraction is the ability of a "clumsy approach" grounded in cultural theory to accommodate variations in spatial and temporal scale (Thompson, 1997), that is, to recognise that an individual's solidarities may be expected to vary not only with cultural origins, employment and education, for example, but also across his or her relations within, say, the household, extended family, village, place of religious worship, dialect group, locality, region of the country, country, and geopolitical region. Further, social solidarities may be expected to change as a person ages, and according to whether the short, long or medium term is being considered. A possible example of a particular dissonance of this type is between, on the one hand, the long-term hopes and expectations of students in developing countries who enrol for tourism-related training, and on the other the inevitably more short-term (and progressively shortening) perspectives of expatriate experts employed to deliver such training on fixed-term contracts. Thus, this clumsy approach seems particularly appropriate for use in, say, management education in a developing country context.

## Adaptive Concepts

An innovative method of clumsy intervention in the educational problem of sustainable tourism development has involved the use of "adaptive concepts." An adaptive concept is an enabling idea which holds the possibility of being able to facilitate discourse between disparate, or possibly hostile individuals and groups by appealing to holders of different interpretations of the environmental reality of a particular setting. In this context, it is an idea, a property, or a value which has an established importance in environmental education theory and practice, and is also recognisably significant within the literatures of environmental management and economic development. Thus, an adaptive concept can "resonate" between fields and groups, and across scales, in a way which allows environmental education to "plug into" areas where normally its focus and concerns are not found. For example, against a socially and environmentally-complex and uncertain background of tourism development it might be found that: government bureaucracies favour a hierarchical, managerial, and procedural approach to the achievement of sustainability; environmental pressure groups offer an egalitarian account which sees changes in human ethics as essential to avoid imminent environmental catastrophe; international lending institutions advocate free-market solutions based in an individualistic and competitive view of rationality; and, finally and in spite of all this concern for their well-being, local people slip gradually into fatalism.

Hence, in *designing* a programme of (eco)tourism development, hierarchists will probably begin by establishing an official Tourism Board, egalitarians by exploring local environmental knowledge, and individualists by researching customer requirements. Meanwhile, local people are likely to have their own ideas about exactly what changes would lead to an improvement in their circumstances, and may be confused by, say: simultaneous exhortations both to move with the times and conserve tradition, the prospect of giving up a traditional lifestyle in exchange for a job telling foreigners what life was like, or the gradual replacement of natural cycles by economic cycles as the basis of their pattern of life. An adaptive concept needs to be recognised as meaningful and significant by all these interests, and to be able to accord them all credibility through its use in teaching and learning situations.

## Using the Adaptive Concept "Design" to Facilitate Research and Curriculum Development in Education for Sustainable Tourism

Some evidence as to the potential of adaptive concepts in general in environmental education for sustainable tourism, and that of the adaptive concept "design" in particular, was provided by a small, two-phase research project which sought to develop, use, and evaluate an environmental education approach appropriate to an internationally-available, pre-university management curriculum. The formal environmental content of this programme specified by the examining board was nil. Materials were designed for use by experienced management teachers from the United Kingdom, Canada, New Zealand, and Australia with a participating cohort of approximately 170 Malay and Chinese students aged from 16 to 21 years. The setting for the research was a college in Brunei, North Borneo, from which management students were very likely to proceed to further studies or employment in business and administration (Murshed, 1995). Tourism had not been the initial focus of the project, but had emerged strongly as a theme of interest to students during its first stage, which explored the use of another adaptive concept, "quality" (Gough, Oulton, & Scott, 1998). During the second phase tourism became central. Groups with a direct interest in the progress of the work at all or some of its stages were:

- management students,
- management teachers,
- non-management students and teachers,
- parents,
- college administrators,
- government officials, and
- the business community.

The main focus of both teaching and research was a week-long activity in which students, working in groups, were required to design a marketing mix suitable for the promotion of tourism in Brunei. The concept of a marketing mix is a fundamental one in management education at this level. Tourism had been targeted locally as a potential growth industry which was central to national development planning. Students were encouraged to consider local tourism development issues both in general terms and with a particular focus on the country's coastal regions, which

are ecologically rich but under pressure for development from a variety of economic directions.

The purposes of this tourism marketing-mix design intervention fell into two broad categories, one concerned with teaching and learning, the other with research. In terms of teaching and learning the purposes were:

- to enhance students' management education and training,
- to show evidence of achievement of environmental education goals from the perspectives of more than one educational research paradigm, and
- to show evidence of achievement of professional development of teachers in environmental education, again from the perspectives of more than one educational research paradigm.

In terms of research the purposes were:

- to evaluate the use of the adaptive concept "design" as a means of introducing environmental education into this management programme,
- to continue evaluation (which had begun with the use of the adaptive concept "quality") of the usefulness of adaptive concepts in general as a means of focusing both curriculum development and research in environmental education, and
- to achieve interpretivist understanding and illumination of the context of the intervention.

The following methods were employed during the teaching activities which provided research data. Students were provided with a booklet containing information drawn from official publications, the local press, the management literature on tourism, the environmental literature on tourism, documents supplied by local firms whose work had environmental impacts, and extracts from the written output of students during the first phase of the research using the adaptive concept "quality." Students were asked to complete two tasks bearing on the future design of Brunei's tourism product. The first was to prepare a report containing recommendations for the usage of the local coastline over the next six years which balanced government economic, developmental, environmental, and cultural objectives with a variety of interests including those of tourism firms, local villagers, local fishermen, shipping firms, and wildlife. The second was, in the light of this report, to identify target markets for local tourism development, make recommendations regarding the types of

tourism and tourist to be encouraged, outline a preferred usage pattern for local resources, and discuss potential costs and benefits of all kinds. Subsequently, groups of volunteer students continued and refined these studies with the researcher.

It was considered important to meet or exceed the expectations of business education held by parties to the research while simultaneously maintaining, and in fact propagating, an environmental education focus. To this end educational administrators were regularly consulted and informed of progress. Arrangements were made for students to present work to the Head of the Tourism Unit at the Ministry of Industry and Primary Resources, and to further discuss it with him during a seminar held at the nearby ASEAN-EU Management Centre. All teachers involved completed a detailed written evaluation of the intervention. The selection and use of illustrative examples in a sample of students' subsequent syllabus-specific work were examined to investigate the extent to which students were showing evidence of enhanced understanding of the relevance of environmental issues to business management, and at the same time meeting external requirements. To achieve the research purposes of the intervention, data relating to the teaching activities were collected from students and teachers through students' written proposals, this researcher's field notes, audio-taped conversations between students and the researcher, and teachers' written evaluations.

Emphasis was placed on written data. In the case of the students this was for two reasons. First, the teaching activities involved a focus on possible future outcomes, and the literature of futures studies in environmental education suggests that, "Pupils' interests become more alive when they *write* about their hopes and fears for the local area" (Hicks & Holden, 1995, p. 188, original emphasis). Second, since all students were responding in their second (at least) language, it was felt appropriate to permit them the opportunity to consider and, if necessary, correct what they wanted to say. In the case of teachers, written data were required for research purposes because, once more, a considered response was being sought, and because to provide a written evaluation of a curriculum innovation would be a normal and expected thing for a teacher to do in this setting.

Written data from students were analysed and checked for internal validity using techniques drawn from network analysis (Bliss, Monk, & Ogborn, 1983), problem-based methodology (Robinson, 1993) and dilemma analysis (Winter, 1982). A diagrammatic representation of the ideas which each student thought important for tourism development, and the way in which these were interconnected, was drawn up following simple rules to

relate linkages made by students to the configuration of the finished diagram. For example, if a student expressed the view that damage to mangroves would lead to a decline in traditional small scale fishing activities, then a cause and effect relationship was recorded by linking "damage to mangroves" to "decline of traditional fishing" by means of a descending vertical line. On the other hand, if both damage to mangroves and the decline of fishing were considered by the student to be consequences of the construction of hotels this was recorded by linking "damage to mangroves" to "decline of traditional fishing" horizontally on the page, with a further vertical link upwards to "hotel construction." The term "loose networks" was coined for the resulting research artefacts, to emphasise that the ideas they contained, and the inter-relationships between them, originated with the students not the researcher (See Figure 2).

However, the researcher's concerns became significant at the next stage of data analysis, the identification of "classes of interest" (Robinson, 1993, p. 125-126) from the loose networks. Students' ideas became interesting if they (or the links made between them) seemed likely to have a bearing on the achievement of the purposes of the research. There was, then, "interplay between the theorising of outsiders and insiders in the development of these classes" (Robinson, 1993, p. 125). Examples of classes of interest included: the need to preserve traditional customs; concern for traditional activities such as fishing and the manufacture of musical instruments, hopes for future prosperity, national and international issues of social justice, the merits of the expansion of the built environment at the expense of jungle and mangroves, and the proper role of public policy.

Wherever there appeared to be tension within a class of interest this was formulated as a "dilemma." A total of 65 such dilemmas were expressed as pairs of statements. These were then assembled into a "perspective document" (Winter, 1982) in the form of a questionnaire, which provided both a check on the validity of the loose networks, and a potential source of further adaptive concepts (See Figure 3).

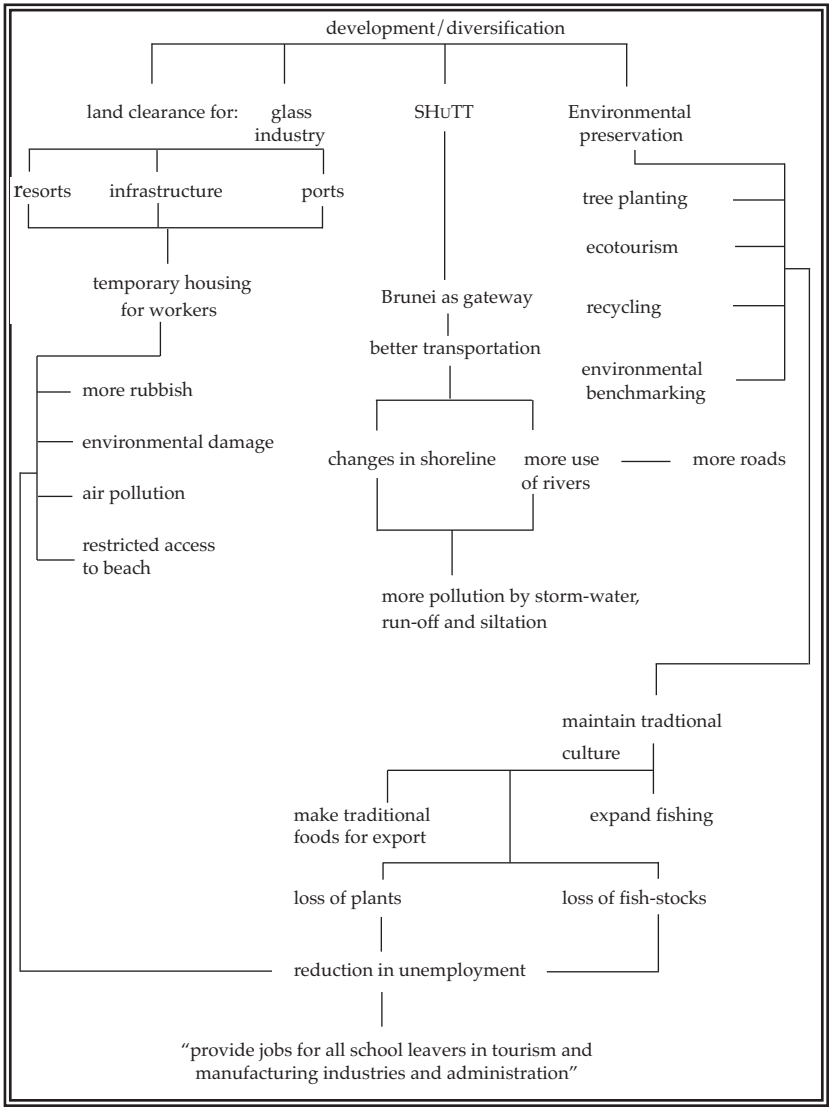


Figure 2. Example of a "loose network."

Note: "SHUTT" is an acronym used to describe a development plan under theterms of which Brunei would become the "Service Hub for Trade and Tourism," within a designated south east Asian regional growth area (BIMP-EAGA), by the year 2020.

**100**
Part of Brunei's tourism appeal is that it is the "Abode of Peace"
Brunei is peaceful because it receives few tourists.
**101**
Brunei must change to suit tourists.
Brunei is attractive to tourists as it is.
**102**
Tourism is a way of diversifying from oil and gas.
Brunei's oil and gas wealth is part of its appeal to tourists.
**103**
Natural habitats must be preserved.
Roads and railways must be built through natural habitats so that tourists can see them.
**104**
Tourists must be able to enjoy themselves as they wish.
Tourists must respect Bruneian values and traditions.
**105**
Islands in Sg. Brunei are valuable because they provide an undisturbed environment.
Islands in Sg. Brunei are valuable because they can be exploited and managed.
**106**
Muara and Serasa should provide beach attractions to tourists.
Muara and Serasa should provide industrial and commercial facilities.
**107**
Tourists are attracted by traditional activities like fishing, craft work and cooking
Jobs in tourism will replace traditional ways of earning a living.
**108**
Tourists will not visit areas where the natural environment has been damaged. Tourists are a major cause of damage to the natural environment.
**109**
Tourism revenues will replace oil and gas revenues in the long run.
Tourist expenditures are often on imported goods and services.
**110**
Tourist numbers must be kept low to minimise damage to coastal and jungle ecosystems.
Tourist numbers must be maximised to earn the greatest possible revenue.

Figure 3. Sample of Pairs of Statements Included in the "Perspective Document"

Note: "Serasa" and "Muara" are, respectively, a location near the mouth of the Brunei river which is home to a fishing community and an industrial estate, and the port at the mouth of the same river.

Where a large proportion of students (arbitrarily chosen as > 65% of those responding) expressed explicit agreement with both statements in a pair, the focus of the statements was deemed to be strengthened as a class of interest, and became a candidate for consideration as an adaptive concept. Examples of issues addressed in this way included: the tendency of tourism to destroy its own attractions, traditional versus modern technologies, the varied factors which motivate tourists, tour-operators, tourism employees and local people, the meanings of the term "resources," the difficulties of valuing environmental assets, the proper place of traditional artefacts, dance and song, the finance of tourism, the allocation of benefits from tourism, issues of scale, and coastal and rainforest ecology as it affects and is affected by tourism development. Which classes of interest were subsequently to be adopted as adaptive concepts would depend upon their significance for other groups in the research context, viz.: students, management teachers, college administrators, and tourism development officials.

While this is, necessarily, no more than a brief overview of the methodology employed in this research, it does serve to illustrate what was, perhaps, its most fundamental characteristic. This was the use of qualitative techniques to establish a set of potentially significant categories, followed by a more quantitative approach to seek to establish the degree of significance of any particular category across the sample.

The intervention was evaluated against environmental education and professional development guidelines from both positivist (Hungerford, Peyton & Wilke, 1980; Hungerford & Volk, 1990) and critical (Fien, 1993; Robottom, 1987) educational orientations. This was felt to be consistent both with the "clumsy" commitment of the research to respect conflicting perspectives under conditions of uncertainty and, more fundamentally, with a cultural-theory-based understanding of the nature of the disagreements between different educational methodologies. Positivist research in environmental education, with its emphasis upon the role of the citizen, assumes a target audience of networking individuals. Critical theory is based upon egalitarian assumptions about the social world it addresses. Confusingly, however, academics from both paradigms typically conduct their debates within the hierarchical frameworks of higher education and research.

Different groups participating in the research confirmed that the tourism design work discussed here was, from their separate points of view, an appropriate *management* education innovation. The teachers were unanimous in wishing to continue the work with future cohorts, and discussions took place about the possibility of a further programme using other

potential adaptive concepts which were identified during the research. Subsequently, evidence emerged that students were also raising these issues appropriately in their examination-related work in Management, and a number of individual students seeking admission to Higher Education institutions in the United Kingdom in commercial subjects drew specific and unprompted attention to their tourism marketing design work as part of their personal statements on their University-entrance applications. Finally, the project had a practical spin off. It was instrumental in the initiation of work in another department which culminated in the establishment of a college recycling system.

## Concluding Comment

This small scale research effort claims educational value in its own setting, no more. In particular, the institutional resistance or incomprehension often encountered by environmental education initiatives (Posch, 1991) was avoided, a degree of engagement of environmental education ideas was achieved within settings to which they might well be thought alien (Gough, 1997), and there appear to have been gains in terms of teaching and learning. Careful generalisation may be possible from qualitative, case study research (Adelman, Jenkins & Kemmis, 1980; Robinson, 1993) but further work with adaptive concepts in different contexts is necessary before any such claims could be made for them. If, as this paper has argued, the attempt to educate for sustainable tourism development must necessarily precede any finalisation of principles that might guide it, then such further work might be hoped, over time, to contribute to an archive of experience. This, in turn, might inform continuing developments in environmental education, grounded in cultural theory. The basis for such grounding lies, as we hope our arguments have illustrated, in the ability of a cultural theory approach to inform methodologies which respect, not only competing solutions to the problem of sustainable tourism, but also competing definitions of that problem.

## Notes on Contributors

**Stephen Gough** and **William Scott** are members of the Centre for Research in Education and the Environment at the University of Bath. The mission of the Centre is to promote, through research and scholarship, the theoretical and practical understanding, and realization of the goals of environmental education.

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