# Challenging the Pedagogical Basis of Contemporary Environmental Interpretation

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**ABSTRACT**

Environmental interpretation can be defined as a kind of non-formal environmental education carried out in predominantly recreational settings within which visitors are provided with opportunities to become more aware of particular concepts and phenomena through first hand experiences. The fundamental objective of environmental interpretation programs is commonly given as increasing visitors' empathy for environmental conservation; the visit becomes a transformatory experience as a result of which it is intended that visitors become more committed to ensuring the continued integrity and sustainability of the environment. This paper argues that, as presently practised, environmental interpretation is informed largely by a somewhat conservative, traditional pedagogy, and as such tends to be didactic, knowledge-driven, and shaped more by technique than by philosophy. An attempt is made to outline, at least conceptually, an interpretive process influenced more by the principles of an alternative educational framework called andragogy, one which acknowledges the learning characteristics of adults, accentuates the affective domain of learning, and which might ultimately lead to greater levels of visitor involvement in learning processes.

*Environmental educators, government agencies, and public-relations departments all make claims on our understanding of nature and its place in our everyday lives. By the mid-twentieth century, it seemed, nature had to be explained to its human inhabitants; it was not enough to just try to experience it. As a result, conflicting information about the natural world blankets our visual and aural environments*

In the above, Alexander Wilson (1992) highlighted the role that various government and non-government organisations played in interpreting, explaining and, in effect, mediating the natural world to those who cared to visit it. He was critical that the importance attached to explanations of what is seen usually exceeds that attached to the more immediate experiences of seeing, experiencing and participating. Wilson argued that interpretation helps to provide depth and substance to tourists' observations so that the views they experience become something more than scenery to be packaged and consumed. However, he was uneasy about whether this mediation of people's experience of nature interfered with their understanding of nature, or even became a substitute for their personal experience of it. Fine (1992), though not the first to do so, stated that the ways in which observers interpreted something were culturally-bound phenomena; interpretations did not exist 'out there', but reflected people's cultural values and ways of looking and knowing. Therefore the ways by which interpretation is practised will be influenced in part by dominant theories describing the ways in which people learn. This paper argues that much contemporary interpretation practice appears to continue to accept uncritically the principles of a traditional pedagogical model of learning and teaching which emphasises knowledge transmission and techniques, rather than those of alternative models which emphasise affective learning opportunities and a greater level of learner or, in this case, visitor autonomy.

Visitors to protected natural areas in national parks and similar reserves have long been offered a range of environmental and cultural learning opportunities, including interpretive signs, brochures, booklets and other printed material, personal experiences with rangers and interpretive guides, and computer-based interactive exhibits. These opportunities are the ways by which agencies such as national park authorities or the tourism industry structure or focus the 'gaze' of tourists or visitors. Urry (1990) used the work of Foucault (1976) and his construction of the 'medical gaze' to develop the notion of a socially-constructed 'tourist gaze'. For Urry the tourist gaze resulted from the structuring of tourists' interest in and their attention on those aspects of culture and landscape which were deemed 'significant', most usually by the tourism industry. Urry argued that the tourist gaze was "as socially organised and systematised as is the gaze of the medic". He also recognised two forms of tourist gaze: the romantic gaze in which tourists' experiences were essentially private contemplations of beauty, and the collective gaze, where experiences were publicly celebratory or participatory.

Pearce (1994) argued that a better understanding of tourists

would result from the consideration of a third gaze which he called the scientific/technical gaze. This was the gaze structured by natural and cultural resource managers and interpreters; its encouragement was founded on the belief that such a gaze would provide individuals with an informed foundation upon which support for and commitment to conservation could be built (Pearce 1994). Thus it was believed that the scientific/technical gaze could be personally transforming and empowering. It is unclear, however, if Pearce's scientific/technical gaze was based entirely on cognitive learning theory, or whether he incorporated in it affective dimensions to learning as well. However, the terms 'scientific' and 'technical' tend to imply that cognitive rather than affective learning was associated with this gaze. If this is the case, then the extent to which a scientific/technical gaze can provide such commitment to environmental conservation is problematic at least, and it is questionable whether it should serve as the only platform upon which environmental interpretation should be based.

## Interpretation as an educational process

Humans of all cultures have no doubt been interpreting aspects of their environments for as long as human existence through story telling and artwork; environmental or heritage interpretation was however formally conceptualised and defined by Freeman Tilden in 1957 for the US National Parks Service. Tilden (1977) defined interpretation as:

> *an educational activity which aims to reveal meanings and relationships through the use of original objects, by first hand experience and by illustrative media, rather than simply to communicate factual information.*

This definition or ones derived from it have formed the basis for interpretive philosophy, policy and programs in protected natural areas throughout the western and, in many cases, the non-western world. His ideas and beliefs continue to inform, at least broadly, much contemporary interpretation. Tilden (1977) talked of interpreters as 'the custodians of our treasures' and as 'middlemen' (sic) or later, 'middlemen of happiness'. Importantly, his language was permeated with references to affective as well as cognitive domains of learning: 'the beauty and wonder, the inspiration and spiritual meaning', 'aesthetic joy' and 'the enrichment of the human mind and spirit'. He argued most strongly that provocation of visitors into challenging their own beliefs and values, and opening themselves up to new understandings, was the essence of interpretation. However in the author's experience much contemporary interpretation seems to concentrate largely on the cognitive domain of learning, operating from an assumption inherent in more traditional and conservative forms of pedagogy, whereby emphasis is given to the transmission of large amounts of knowledge by the expert 'teacher'. Alternative or complementary ways of making sense of the world

involving higher levels of participation and involvement in the educational process by visitors themselves are less common. By concentrating almost entirely on knowledge transmission, the providers of such interpretation are placed in the position of 'experts', of the holders of the knowledge, whilst visitors are dependent on the interpreters for gaining at least some understanding of the site. This relationship of dependency it is argued, is not a desirable one if the intention of interpretive programs is to promote strong feelings about a place or thing in order to develop within visitors greater levels of empathy and commitment to conservation.

This paper is concerned with exploring, at least conceptually, an interpretive process which lessens the relationships of dependency between visitors and interpreters, one which instead assists visitors to make their own discoveries about the meanings of the objects of their gaze, and of the elements of their experience. In this approach to interpretation, the visitor and interpreter are involved in a collaborative relationship, a relationship which acknowledges the past experiences of the visitors and does not assume that visitors are homogeneous in terms of what they want from their visit to a heritage site. Rather than emphasising the transmission of factually based knowledge, this approach to interpretation stresses the problems inherent in attempting to interpret any phenomenon and invites the visitor to contemplate such problems. Instead of assuming that a realistic understanding, whatever that means, of a site or of a phenomenon can be achieved through the simplification of the processes and elements which comprise it, this approach advocates a more honest account of the limits to our understanding.

Hammitt (1984) and Peart (1986) have both discussed interpretation in the context of informal learning environments such as museums, zoos, national parks and art galleries. Formal learning environments, such as those occurring in school education systems, by contrast are traditional learning environments characterised by a more rigid structure and strongly defined outcomes. People attend or participate in informal learning environments for a variety of reasons: to relax, enjoy themselves, to socialise with family or friends, and to learn (Roggenbuck, Loomis & Dagostino 1990). Thus visitor populations are not necessarily homogeneous in terms of their motives for visiting such sites, nor in terms of the outcomes they wish to derived from their visit. Because attendance at such settings is voluntary those attending will terminate their visits if their needs are not met (Peart 1986). Interpreters must appreciate that the majority of such visitors are expecting a relaxed and enjoyable atmosphere in such a setting, and so any interpretive programs must be presented in ways which will be rewarding to the visitors, and which will complement and enhance their experiences (Field & Wagar 1973).

The role that enjoyment and pleasure play in effective interpretation was outlined by Roth and Hodgson (1977):

*Learning is enhanced by positive rewards, such as the pleasant experience of learning itself, however, if the interpretive experience proves not to be enjoyable the client is likely to leave or fail to return to future programs. Pleasure is therefore important to ensure an audience for interpreters' messages and to reinforce the learning of those messages. Also, by associating pleasure with an environment, interpretation can markedly enhance the client's valuation of that environment.*

Peart (1986) asked how could interpreters engage visitors in a process of active inquiry without 'turning them off'? Peart argued that interpretation should be a process which, through providing visitors with recreational opportunities for direct contact with nature, enabled educational messages to be embraced by those visitors. He considered it important that "interpretive programming...reflect the context of...visitors and provide experiences that better meet their leisure needs". He also argued that interpreters over-emphasised cognitive knowledge at the expense of affective and psychomotor learning. He stressed that rather than presenting rational, linear, logical programs, interpretation should be making more effort to communicate in a "metaphoric, intuitive fashion that stresses recreation, inspiration and sensory involvement" (Peart 1986).

Accordingly, if tourists or visitors are to develop an environmentally responsible conservation ethic, an interpretive experience which emphasises both cognitive and affective spheres of learning may well be required (Kastenholz & Erdmann 1994). Iozzi (1989) argued for an holistic consideration of both affective and cognitive spheres in teaching-learning processes, and in fact called the affective domain "the 'gateway' to the learning process". Thus Iozzi recognised that within what might be broadly termed environmental education, which included environmental interpretation, it was not sufficient to concentrate on knowledge alone, but that as much attention—if not more—should be given to attitudes, values and emotions. Orams (1994) provided a comprehensive review of the relationships between various theories of learning and the practice of interpretation. He concluded that the goal of altering attitudes and behaviours of tourists or visitors through interpretive programs was a complex one and that because the psychological processes involved were largely not understood more attention needed to be given by interpreters to the affective domain.

Another criticism which can be made of much contemporary interpretation is its tendency towards being overly didactic or instructive in its approach. This characteristic reflects the traditional pedagogical framework within which much interpretation is still located. Tilden (1977) was quite clear that interpretation was not synonymous with the transmission of information, but that to be truly effective interpretation needed to provoke an emotional response in the visitor, as well as somehow making a personal connection with the visitor. Increasingly in Australia agencies are favouring impersonal methods such as signs, brochures and interactive exhibits as opposed to forms of interpretation in which visitors interact with rangers, guides and other interpretive personnel (Beckmann 1989). It should be pointed out that the presentation of didactic messages does not necessarily equate with the use of non-personal techniques and media; indeed, many personally guided tours rely heavily on a didactic approach. However, the question must be asked as to whether interpretive methods which rely on didactic messages and provide little if any opportunity for visitors to seek answers to questions they themselves have formulated as a result of their visit, are really effective in providing opportunities for personal transformations to take place.

A statement often attributed to Tilden, but in fact found by Tilden in a US Park Service Administrative manual, is "Through interpretation, understanding; through understanding, appreciation; through appreciation, protection". This statement is at the core of many interpretive programs operating today and is similar to the belief held by both the environmental education movement and by advocates for more ecologically sensitive tourism that exposure to nature and an opportunity to enhance one's understanding of nature leads to a greater sense of appreciation and hence commitment to its protection and conservation. Uzzell (1989) described this as occurring when visitors were informed and impressed by the "specialness...and fragility of...ecosystems...". Once visitors understood and stood in awe of such marvels it was a short and automatic step to creating a change in their attitudes and inducing thoughtful and considerate behaviour.

Bruner (1991) examined the notion prevalent in much tourism advocacy literature that the nature of tourism experiences led to personal transformations of tourists' selves. He concluded that such claims were exaggerated, and suggested that rather than having their world views and values challenged by their experiences, mediated as they were by various forms of interpretation, tourists could return from their visit with their prejudices and misunderstandings reinforced and reconfirmed. If tourist or visitor experiences are to provide opportunities for personal transformation, then what may be required is not more information but more opportunities for self discovery, reflection, provocation, and the questioning and clarification of values and assumptions. Interpretation would then become a process which was intended to assist visitors make sense of their visits within the wider context of their everyday lives, and to assist them in the clarification of their own positions on such things as environmental conservation. An interpretation with its emphasis so changed would seem better able to be accommodated within what has been termed an andragogical as opposed to a traditional pedagogical learning framework.

## Andragogy as an alternative to traditional pedagogy

The criticisms of interpretation identified above can be traced back to a reliance on a more traditional and conservative pedagogical paradigm which still seems to be dominant in informing much interpretive practice in Australia. The traditional pedagogical model referred to here is the one which underlies much of the approach to teaching and learning in formal settings such as in schools and universities. Students are assumed to be dependent upon teachers for all decisions about the content, method and timing of what should be learnt and how it should be assessed. The major role of students is therefore a submissive one in which they passively carry out the instructions of the experts or teachers. The experiences of learners are not acknowledged to be as important as those of the teachers and accordingly the bases of traditional pedagogical methods are transmission techniques such as lectures, assigned readings and audiovisual presentations. Under this model students are motivated primarily by external pressures from parents and teachers, competition for grades and the consequences of failure.

Dissatisfaction with the application of this teaching model has long been felt in primary schools, the very places in which the term 'pedagogy' ought to have real meaning. The more recent development of a similar dissatisfaction with the use of this model in the education of senior secondary students and adults has led to the development of an alternative model, known as andragogy (Knowles 1980). The assumptions inherent in the andragogical model are:

- learners are self-directing, rather than being dependent on their teachers

- learners' past experiences are valuable and can contribute to the knowledge to be shared within and outside the classroom

- learners become ready to learn when they experience a need to know or do something in order to perform more effectively in some aspect of their lives

- learners enter their educational activity with a life-centred, task-centred, or problem-centred orientation to learning

- whilst the same motivating factors identified above under the pedagogical model apply to learners under the andragogical model more potent motivators are internal, such as self-esteem, recognition, greater self-confidence and self-actualisation

An examination of these assumptions indicates that:

- this teaching/learning paradigm is probably better suited to assisting students—or visitors to natural areas—to develop characteristics such as independence and the ability to seek, analyse and use information in order to solve problems

- it is perhaps likely that these people will be more motivated to participate in educational processes at a deeper level due to the greater levels of involvement and autonomy they have in those processes

The andragogical model thus seems to possess a number of advantages over traditional pedagogical methods, particularly in the context of environmental education and interpretation. Schwass (1986) has argued in relation to more formal environmental education programs that environmental education should be adapted to the needs of the learner and take account of the occupational and social aspirations of learners. This increases motivation and helps students to envision better ways of doing their work in the future. Environmental education should involve experiential learning and practical problem-solving processes. Passive learning is not enough.

If decision-making and problem-solving abilities are identified as key characteristics of environmentally literate citizens the educational framework in which they learn, regardless of whether the learning environment is a formal or non-formal one, must provide real opportunities for these skills to be developed and refined in order for them to move to higher levels of environmental literacy. The traditional pedagogical model, in which teachers or expert interpreters assume much of the responsibility for decision-making and to a large extent problem-solving, does not seem to be adequate for the demands of environmental education or interpretation. An educational paradigm which enables visitors to be more self-directed and free to choose learning pathways is more in keeping with the aims of environmental interpretation. Uzzell (1989) has put forward the view that interpreters should be trying to reduce the dependence of visitors on interpreters and to assist visitors in the development of perception techniques which will allow them to better interpret and understand environments themselves or at least in more equal partnerships between interpreters and visitors. This approach fits well within an andragogical framework in which learners are encouraged to become much more active participants in the learning process. The challenge for interpreters and agencies for whom they work is to relinquish their expert status and adopt the role of being collaborative facilitators of learning.

This change towards being facilitators of learning should not deny the depth of knowledge about sites and phenomena that interpreters and the agencies for whom they work often possess. Indeed, it would be difficult to imagine interpretation without such a knowledge base. However, inherent in any attempt at interpreting places is the problem of over-simplifying the complex and interconnected elements which constitute such places in the interests of achieving factual understanding within visitors. Rather than presenting visitors with information as if it existed independently of the social and historical processes which helped to create it, the andragogical approach to interpretation might instead use such information as a springboard to encourage the visitors to interrogate the truth of such claims. For example, some museums are now

telling visitors that the ways in which they recreate the past in their exhibitions are very much influenced by the manner in which people make sense of their contemporary world. This more honest and inclusive approach to interpretation reflects a shift in interpretive philosophy whereby interpretive agencies are inviting visitors to become more involved in the interpretive process itself as opposed to being merely consumers of interpretive products.

An example of an interpretive technique which embraces some of the principles of andragogy is the use of hand-held electronic 'interpreters' which are operated on the lines of a push-button mobile telephone. The units are employed in a number of art galleries and museums within Australia, and elsewhere throughout the world, such as Bath's Roman Bath Museum, and Stonehenge, UK. A number of criticisms of their use have been identified (Walter 1996); indeed they are essentially talking boxes of information. However the devices enable visitors to move more independently around interpretation sites and to choose the information they wish to hear. Visitors so equipped are more in control of their experiences; they are determining how they move around the site and what information they need. Electronic interpreters also enable visitors to listen to a number of different interpretations about sites. For example, visitors to Stonehenge can listen to the interpretations offered by a professional archaeologist as well as to stories told by local farmers. These accounts, which sometimes contradict each other, convey to visitors the notion that a site may have multiple and perhaps contested interpretations, and that 'knowing the past' may not be as straightforward as once thought. The important point is that the visitors are informed of this debate.

## Conclusions

Environmental interpretation is a communication technique much used by managers of protected natural areas and other sites such as zoos and museums to enhance visitors' experiences, to raise visitors' awareness and understanding of particular environmental issues, and to provide information and reasons for particular forms of appropriate behaviour. Interpretation takes on explicit or implicit educational, political and management functions. However environmental interpretation cannot be assumed to be value-neutral. Decisions are made throughout the interpretive program design process about which stories to tell and how to tell them. The importance given to interpretation in the first place is a reflection of a belief in conservation ethics. Interpretation programs which present information to visitors as entirely unproblematic and as independent of social and historical processes are guilty of over-simplification of complicated and often contradictory realities.

It has been argued in this paper that much contemporary interpretation is still informed by a conservative form of pedagogy which (over) emphasises didactic transmission methods so that visitors remain dependent on interpreters to

'tell the story', rather than collaborating with interpreters in an educational process which takes account of learning and other needs of visitors, and of their experiences. Interpretation can facilitate visitor/environment and visitor/agency dialogue. This alternative interpretive process, informed by a form of andragogy, would at the same time emphasise the affective domain of learning as much as the cognitive and would seek to involve visitors much more in the totality of their learning experiences.

If the process of interpretation is to play a significant role in the personal transformation of visitors, so that they are better able to clarify their own positions on environmental matters, it may well need to be re-examined in the light of the points raised in this article. It is suggested that a modified andragogy would serve as a more appropriate learning framework for interpretation than reliance on a traditionally conservative pedagogy and would be more visitor-centred. Informed by the principles of andragogy interpreters would need to take a much greater account of visitors' characteristics including their learning and recreational needs in the design and implementation of interpretive programs. A system of interpretation which is flexible enough to cater for a diversity of learning needs, as well as being able to respond to the sorts of questions which visitors may formulate during their visits will be more in keeping with the principles of andragogy than one which is relatively inflexible and therefore incapable of meeting many of the needs of visitors.

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