How Shall We “Know?”
Epistemological Concerns in Research in Experiential Education

Pete Allison and Eva Pomeroy

In this paper, we explore issues of epistemology and ontology as they relate to research in experiential education. As research activity in this field grows, it is essential to consider the assumptions and foundations upon which research is based. Drawing on the work of Guba and Lincoln (1994), we seek to provide a language for considering such issues and comparing research approaches. We then argue that traditional approaches to research in experiential education are not, in themselves, adequate. These traditional approaches tend to focus on whether programs “work.” Ironically, such a focus tends to ignore a key feature of our work: the experiences of individuals and the meanings they make of their experiences. In order to do justice to our work (that is, to recognize the essential nuances and subtleties of experiential education), alternative research questions must be asked that take into account the broad range of inputs, processes, and outcomes in our work. This change of focus denotes a shift in our epistemological and ontological paradigm. The implications of such a shift are explored in greater detail.

Introduction

This paper was written as a result of the Brathay Hall Trust conference “Experiencing the Difference” held in July 1999, which focused on experiential work with young people. In recent times, an increasing number of conferences focusing on experiential education have finally included themes on research and evaluation. Attendance at workshops in this track at the Brathay Hall conference was surprisingly high. This may be an indication of the growth in the quest for “knowledge” in the field of experiential education, whether that be for justification to funders and various stakeholders and/or to improve practice. Some would suggest that the increased interest is merely a symptom of the “evaluation age” (Pawson & Tilley, 1997, p. 2) where everything and anything is measured and evaluated in some way. This has been critically referred to by Taylor (1991, p. 5) as the age of instrumental reason that he describes as “the kind of rationality we draw on when we calculate the most economical application of means to a given end. Maximum efficiency, the best cost output ratio, is its measure of success.” Whatever the reasons for increased attention to this area, it is worth considering some of the broader context of the nature, purpose, and uses of research and evaluation.

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Inevitably, the nature of the research we undertake in the field of experiential education will have an effect on the type of findings we gain. These findings, in turn, will impact upon our practice. It is important, therefore, to examine the assumptions on which research in this field is based.

The aim of this paper is to outline a framework that explores the nature of knowledge (epistemology) and the nature of reality (ontology) in experiential education. In doing so, we have two objectives. First, to encourage people to consider their epistemological and ontological preferences and opinions. Second, to foster a critical understanding from which to read different research articles. Following the framework, we explore further some of the implications that this raises, topics such as paradigm wars, before suggesting three categories that can help us think further about experiential education.

**Considering Epistemology and Ontology**

This section considers the foundations upon which research in general is based: our beliefs about reality and our beliefs about knowledge within that reality. These beliefs inevitably shape choices and actions within the world and, more specifically, within research. It is essential to understand some of this in order to effectively critique and apply research findings to improve and / or justify practice.

What is epistemology? Epistemology fundamentally refers to the nature of knowledge. But what does this mean? It means questioning the sources of knowledge, the assumptions upon which it is based, and therefore questioning what we “do know” and “can know” (Allison, 2000, p. 13).

Ontology, also known as metaphysics, is concerned with the nature of reality. As is discussed further below, this involves considering the filters through which we see and experience the world. Some consider that reality is out there to be discovered whereas others consider that reality is socially constructed. As we will see, differentiating between ontology and epistemology can become difficult at times (Allison, 2000, p. 13).

At this point, some readers may question the relevance of issues of epistemology and ontology. Some would say, “Surely there are things that we know.” It is possible to question everything that we know or think we know. This is not particularly new — it has received the attention of many philosophers. One of these philosophers was Descartes (1591-1650) who, in his *Meditations on First Philosophy*, questioned whether his senses were deceiving him or if he was actually experiencing the world.

For some, this is a somewhat disturbing thought but Descartes, in his search for claims that were incontrovertibly true, came to the conclusion for which he is famous. He claimed that the only thing he could rely on was thinking. If he was thinking, then he must be. Hence, “I am, I exist, is necessarily true each time that I pronounce it, or that I mentally conceive it” (1997, p. 140). This is Descartes’ famous cogito ergo sum, or “I think therefore I am.”

So how shall we know? Can there ever be anything for sure other than thinking? One way of thinking about what we “know” or “believe” is to take a step back and consider the lens through which we see the world. We must consider our ontological vision or, put another way, we must consider the nature of reality as we see it. Surely the way in which we see the world will have an impact on what we believe we know. Given that each of us will view the world differently, we are all likely to possess different “knowledge.” In considering research, it is important to understand how researchers view the world and, therefore, the “knowledge base” from which they work. Having this background allows us to interpret and make useful that research. We can see that epistemology is closely connected to ontology; it becomes difficult to consider one without the other.

Descartes was a rationalist; he emphasised the distinction between thinking (mind) and perceiving (senses). He was a founder of the rationalist approach which claimed that true knowledge comes through thinking about the world, by reason and logic, and that our sensory experiences of the world are subjective and flawed. Empiricists, such as Locke and Hume, see foundations of knowledge as experience-based. Empiricism is the theory that sense experience is the source of knowledge and thus allows for no a priori knowledge. Both of these foundations of knowledge have come under increasing scrutiny over the last two decades (Eraut, 1994, p. 5), so much so that, according to Phillips (1993, p. 59), “It is now recognised that there is no absolutely secure starting point for knowledge; nothing is known with such certainty that all possibility of future revision is removed. All knowledge is tentative.”

**An Experiential Approach**

A third alternative to rationalist and empiricist epistemological foundations is an experiential approach. Classical physics was based on the separation of objective reality and subjective reality and used empirical and rational methods. In the early twentieth century, the impossibility of this separation became clear, leading to dramatic epistemological and ontological shifts in physics. Parallel to this, Dewey and the American pragmatists proposed that the only ultimate reality is experience. This truth is about what works rather than what is.

For some, considering the nature of knowledge and the nature of reality may seem like intellectual
self-indulgence and of little practical use. To counter such charges, the following example may be of use: If the ontological struggles that Descartes described are not worthy of consideration, then one could argue that the traditional approach to education is appropriate and nothing else is required. By the traditional approach, we refer to didactic education that sees the learner as an empty vessel where the teacher's role is to fill it with knowledge. There is one truth and the teacher must transmit this truth to students. However, if Descartes' somewhat disturbing assumptions are correct, then we can never "know" the world that we live in, only experience images of it, or images that the demon creates in front of us. The teacher is then no better placed to "fill students with knowledge" than students are themselves. This means that the individual's experience and interpretation is central. Individuals, or learners, come to educational experiences with their own narratives (life stories) and perceptions, and interpret these experiences based on those narratives. It follows that an educator's role becomes that of facilitating access to learning environments and supporting the learner in exploration, problem solving, growth, and development. This description of the educator's role should, by now, have become very obviously familiar. So although Descartes' demon may seem improbable, we can see how these philosophical considerations have profound implications for everyday practice, at least in the field of education. Similar examples could demonstrate the implications of these philosophical considerations in other fields.

**Relationship to Research**

So how does all of this relate to research? As philosophers often remind us: An unconsidered life is not worth living; we must consider our own ontological visions and confront our epistemological preferences. These have huge influences on the way in which we interact with the world around us and on the way in which we conduct our professional lives, as the example above demonstrates regarding teachers and facilitators. In a similar vein, then, unconsidered research is not worth reading. As the information age is now upon us, the skills required of students and practitioners has changed. No longer are skills of accessing information so important—information is easy to access through multiple sources. What is now required is the skill to evaluate information, to look at it with a critical eye. Part of this is the skill to interpret research findings and to understand the ontological and epistemological foundations upon which they rest.

Ontology and epistemology have received much attention in the past and at this stage it is useful to outline a continuum that represents these discussions and provides a language with which to speak about ontological and epistemological concerns in research.

**A Model for the Ontology and Epistemology Debates**

Guba and Lincoln's (1994) work is helpful in that it provides a language and framework within which to consider current research approaches. Although the following table may appear cumbersome at first, it is worth persevering with as it is widely accepted as a benchmark in many research circles.

Table 1 helps to outline the key features of four approaches to research. We have added a hypothetical example to help illustrate each approach.

This is a commonly referred-to continuum which provides a useful map and language. Positivism, on the left of the continuum, is the approach with which many readers will be familiar as it is perhaps the most traditional form of research. This approach assumes that reality is out there to be discovered. Post-positivism questions this view of reality, claiming that we can only determine what is probable, rather than what is fact. Critical theory is concerned with the purpose of the research and its impact upon society. Constructivism focuses on the meaning that individuals and groups make of the world around them. Constructivism is the ontological vision that is claimed to be most prevalent in experiential educational practice, if not in the research in this field. Both Guba and Lincoln are dominant figures in qualitative research and tend toward the right half of the table (critical theory and constructivism). The importance of Guba and Lincoln's work to this paper is that it demonstrates that the world of research is far from unified in its beliefs, approaches, and methodologies. Importantly, different approaches will have a significant impact on the type of "results" that are gleaned from the research. It is important, then, to "read" research results with an awareness of the researchers' particular approach, or research paradigm.

**Paradigm Wars**

Epistemology and ontology are intrinsically linked to values. Perhaps because of this, the research world can often seem to be divided into camps, each with their own set of beliefs, interests, and concerns. Often these camps form around qualitative or quantitative methods. Qualitative researchers are more likely to struggle for legitimacy than quantitative researchers. Boyatzis (1997, p. vii) described qualitative methods as having "had a rough time gaining acceptance in the mainstream social and behavioural science research." He reasoned that some of this was caused by an incorrect impression that qualitative research did not have a rigorous
<table>
<thead>
<tr>
<th>Issue</th>
<th>Positivism</th>
<th>Post-Positivism</th>
<th>Critical Theory</th>
<th>Constructivism</th>
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<tbody>
<tr>
<td>Ontology (Nature of Reality)</td>
<td>Naïve Realism—there is a reality that we are able to apprehend; aims to determine what is there.</td>
<td>Critical Realism—there is a reality but it is only imperfectly apprehendable and therefore, predictable only in terms of probability.</td>
<td>Historical realism—virtual reality shaped by social, political, cultural, economic, ethnic, and gender values; crystallised over time.</td>
<td>Relativism—reality is multiple and will be constructed differently by people, depending on the meaning they make of their world.</td>
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<tr>
<td>Epistemology (Nature of Knowledge)</td>
<td>Dualist / objectivist; findings are &quot;true.&quot; Verified hypotheses are established as facts or laws.</td>
<td>Modified dualist / objectivist; critical traditional / community; findings probably true. Non-falsified hypotheses are probable facts or laws.</td>
<td>Subjective, value-mediated findings which account for cultural and historical insights.</td>
<td>Transactional / subjectivist; created findings. Findings are read as significant when individuals' accounts of their reality converge.</td>
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<tr>
<td>Methodology</td>
<td>Experimental / Manipulative; verification of hypotheses, chiefly quantitative methods.</td>
<td>Modified experimental / manipulative; falsification of hypotheses, may include qualitative methods.</td>
<td>Methods seen as involving dialogue with participants as sources of information.</td>
<td>Hermeneutic: information fed back to participants for confirmation of correct interpretations.</td>
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<td>Example: Self-Esteem and Outdoor Programmes</td>
<td>Pretest, posttest, intervention group and control group. Find: Outdoor programmes increase self-esteem.</td>
<td>Pretest, posttest, intervention group and control group. Find: Outdoor programmes can contribute to increased self-esteem.</td>
<td>Ethnographic, interviews and biographies. Find: Self-esteem of females was increased less than males during the outdoor programme.</td>
<td>Group interviews and focus groups. Find: Participants agreed that since participation in the outdoor programme, their self-esteem had increased in most situations at home.</td>
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*Adapted from Tables 6.1 & 6.2, pages 109 and 112, Guba and Lincoln, (1994).*  
1 Realism: the view that the world exists independently of humans, regardless of what humans believe or feel about various entities.  
2 Relativism: the view that beliefs, principles, and values have no universality and are not timeless but only valid within the socio-historical-cultural context that they are expressed.  
3 Objectivist: impartial judgment is determined by relevant factors and not influenced by irrelevant factors such as personal bias.  
4 Subjectivist: a theory that takes private experience to be the sole foundation of factual knowledge. Therefore, what is subjective is a mere matter of personal taste or preference, lacking in truth or validity.  
5 Experimental: a procedure undertaken to test a hypothesis.  
6 Quantitative: concerned with measurement by size, weight, amount, or number.  
7 Qualitative: concerned with measurement by degree or level of excellence.  
8 Hermeneutic: the art, skill, or theory of interpretation of understanding the significance of human actions.
framework such as that of quantitative methods (see Martens, 1987, p. 54). At the same time, qualitative researchers have levelled considerable criticism at quantitative research. This has become more the case in recent times when positivism has received the brunt of much unfair criticism and negativity (Ruddock & Hopkins, 1985). These criticisms and debates have led to seemingly endless polemics that are often referred to as paradigm wars (Miles & Huberman, 1994).

Adapting the work of Guba and Lincoln (1994), we have outlined an approach that gives us a language to use with a shared understanding, at least to a certain degree. Polemics or paradigm wars regarding which of these research paradigms is better continue, but they are vacuous. The tensions and differences that are present between different research approaches are required in order to understand different aspects of different phenomena. Midgley’s (1978/1995, p. 99) work is particularly useful here. She uses the metaphor of the Swiss roll in which she describes slicing from different angles. If one cuts vertically, then it reveals spirals, but cutting horizontally reveals stripes, both of which are true and equally valid findings. After the slicing angle of the knife is understood, then it becomes possible to understand what would otherwise be contradictory findings. This example illustrates an important point: It helps us to appreciate and evaluate what we read, and consequently to think critically about the sources of knowledge. If outdoor education is the Swiss roll and research the knife, then we need to understand the slicing angle of the research. Just as we attribute preferences and different values to articles in the newspaper based on reputation of the paper and the journalist, we must do the same with research articles.

At this point, we must pause and ask if this “just different perspectives” or a “live and let live attitude” is good enough (also described by Pawson and Tilley, 1997, as pluralism). When we consider this question, we are left wondering if we cannot reach a more concrete conclusion. Are there more and less accurate ways of “knowing” the world and, therefore, more and less accurate research paradigms and methods? Deliberations have led us to conclude that the answer to these questions with regard to experiential education is yes, there are more and less appropriate research methods, depending on the question and the context in which the research is taking place. We are brought to think of Maslow’s hammer and nail analogy: If the only tool we have is a hammer, then we see everything as a nail. Midgley (ibid, p. 103) put it this way:

To become obsessed with a method for its own sake and try to use it where it is unsuitable is thoroughly unscholarly. And the purpose of all explanation must be, ultimately, to illuminate the chaotic world with which we are actually surrounded. This is what we have to explain.

We still have to answer then, “How can we understand the slicing angle of the knife with reference to experiential education research?”

Thinking about Research in Experiential Education

In the field of experiential education, it’s possible to think about three categories (Allison, 1999, p. 74) that help to clarify our thoughts.

Input: Referring to the participants in programmes (e.g., youth at risk, corporate), the facilitators, and the context in which the programme takes place; these groupings can be broken down into further subcategories.

Process: Referring to the various approaches used to working with the groups, the means utilised, such as ropes courses, wilderness, drama, and art. Again, these areas can be broken into further subcategories.

Outcome: Referring to the benefits that the programme works toward, such as interpersonal or interpersonal relationships, skills training, development.

These three categories can be used as a framework for understanding the multidimensional nature of experiential approaches and as a map for locating discussions and applications of research findings. We can see from these categories that research can focus on any one area or on any combination of the areas. In doing so, it will present a specific perspective on a specific situation. The number of combinations of input, process, and outcome is staggering. The research itself adds another dimension. That is, there are many different ways to approach research in experiential education.

From the above three categories, we can see how rich the vehicle of experiential education is and how varied the relevant applications are. Why, then, do we tend to focus on a single research question, “Does it work”? This seems to have been the desire, or perhaps requirement, of a great deal of research in the past. Ewert (1987, p. 5), among others, has drawn attention to this issue and comments that the above question:

does not provide an understanding as to why [italics added] it happened or how [italics added] it can be made to happen again. Without the ability to explain how and why an outcome is realised, we lose our ability to predict what outcome in different situations or with different participants.
Despite this, there remains a focus on attempting to prove that experiential education works. For example, recent work by both Hattie, Marsh, Neill, and Richards (1997) and Neill and Richards (1998) attempts, through meta-analysis, to prove the outcomes of outdoor education to be positive world-wide. The latter attempts to answer the question posed in the title, “Does Outdoor Education Really Work?” This work is not unimportant — it may be interesting reading, it may increase our confidence in our work, or it may justify programmes to external funders, enabling programmes to continue. However, research of this nature does little to help improve practice or understanding of the experiences of participants in programmes. More importantly, these two studies ask and attempt to answer an impossible question. By what criteria does one decide that a programme “works,” and who should determine that criteria anyway? What if participants report outcomes that they believe to be positive, but that do not match the success criteria? Does this mean that the programme is deemed unsuccessful? It could be argued that undertaking research of this nature is more damaging to the reputation of the field of experiential learning than it is helpful. By focusing on a single, limited question, researchers could be seen to demonstrate a lack of understanding of the complexity and subtlety of the experiential education field. Researchers who identify the “Does it work?” question as the only research concern in the field of experiential education undervalue and underestimate its potential and the multiple applications for which it can be used. Further, there are some ironies in trying to create these “answers” to “prove” the value of experiential education. If one of the aims of this field is to help learners make their own meaning of the world around them (that is, learn experientially), then how can we “prove,” in the traditional sense, that this is happening? And, should this really be our focus anyway? Warner (1994, p. 41) noted this irony when he eloquently commented that, “It is paradoxical that an education movement which places so much emphasis on learning as a process focuses its research efforts on documenting products.” Warner’s insightful comment highlights the need for a different research paradigm.

If researchers do not ask “Does it work?”, then what should they ask? We would like to suggest asking questions such as, “What processes are at work in this situation?” or “What are participants’ perspectives on the experiential education programme?” This latter question shifts concerns to understanding or verstehen of what is occurring. Verstehen is a German word that is typically taken to mean understanding the point of view—the subjective meaning—of the other person (Holloway 1997, p. 163). If researchers choose to change the approach they take to research and shift the focus of the questions asked (epistemological shift), then they are trying to understand reality in a different way (ontological shift). This shift needs to take place in order to do justice to the work that is carried out in the field of experiential education. A number of changes are recommended for this shift to occur (in no specific order):

1. Further developing a common language with regard to experiential education in order to describe the various aspects of the field, such as those that can be identified using the three categories described earlier in this article (For example, the Association for Experiential Education recently developed a “deep initiative.” DEEP is an acronym for definition, ethics, and exemplary practices. This initiative has resulted in guidelines for practice with regard to ethical issues in Experience-Based Training and Development.)

2. Re-conceptualising the purpose of research to include “proving hypotheses” and “developing understanding.”

3. Collaborating with funders of research in an attempt to help them understand the complexity and inevitable uncertainty involved when working with individuals and groups utilising experiential techniques.

4. Using research to make appropriate generalisations which will then impact on practice. The topic of generalisability in many research circles receives a great deal of attention. In the social sciences, for instance, Stake (1995, p. 20) identified three types of generalisation. Petite generalisations can be made from one case study to very similar cases. Grand generalisations are applied to a number of different settings in a more traditional “law-like manner.” Naturalistic generalisations are made by the reader as the author creates a vicarious experience for the reader. This experience remains in the realm of the reader’s private knowledge as it is understood in its complexity as the numerous factors involved are acknowledged.

5. Including what Schofield (1993) calls a “thick description” in research articles. This is crucial in order to allow the reader to make the different types of generalisations identified in point four above. Thick descriptions are used to paint as accurate a picture as possible of the socio-cultural historical context, to describe aspects such as the aims and objectives, the environmental factors, the group dynamics, and the background of the participants. This allows the reader to decide how relevant or useful the work is to their own circumstances.

Conclusion: The Epistemological Shift?

We have seen that there are ontological and epistemological issues that impact preferences for qualitative
and quantitative methods. In doing so, we have suggested that, as a field, we need to reconsider the way research in experiential education is understood. This has led us to consider paradigm wars and to think about different types of research questions to ask. We have suggested that we ask a different question and have outlined some of the implications of doing so. What we have suggested is that a shift in epistemological paradigm may be required.

Most experiential education professionals pride themselves on the centrality of the learner in experiences that they facilitate. They subscribe to a constructivist epistemological vision. However, it appears that an incongruent epistemology is often employed in research in this field. It is an outcome-focused, objectivist epistemology which tends not to complement the subjective nature of experiences. Somehow the experiences of individuals that are so central to our work are lost when it comes to research. Barratt and Greenaway (1995, p. 54), in their review of research, recognise this and call for further research into the experiences of individuals:

There is a desperate need for new research which focuses on young people themselves. Young people's accounts of their outdoor adventure experiences and their views about what most influenced their learning and development are almost entirely absent from the literature assessed in this review. Yet such information is essential.

We pride ourselves on learner-centred practice and then engage in research that treats the learner as a "subject for study" and ignores their accounts of their experiences. Earlier we made the point that, although there are different ways of knowing, there are more or less appropriate ways of knowing a particular phenomenon. In the field of experiential education, it may be more appropriate to employ a constructivist epistemology. This approach embraces a broader range of research questions, moving away from the singular, limited question, "Does it work?". A constructivist epistemology typically utilises approaches such as ethnography, case studies, biographies, and phenomenology in order to develop understanding, or verstehen, of experiences. These experiences are necessarily subjective and are owned by, or belong to, the individual and the collective group.

Patterson, Watson, Williams, and Roggenbuck (1998, p. 430) made a similar point when they undertook a study that aimed to describe people's wilderness experiences. They utilised a hermeneutic approach that enabled them to "represent a detailed understanding of individuals rather than an aggregate characterisation of some non-existing average individual," and to represent "a possible type of experience in relation to the context of the setting rather than a statistically generalisable, law-like result." Although this type of work does not provide us with the kind of statistical "facts" that many find to be reassuring, it may prove to be more useful and relevant to practitioners in the field as it offers increased understanding.

Indisputably, understanding our work is a prerequisite for improving it. We have argued that we need to explore different research paradigms and change the nature of our inquiry in order to understand the complex processes involved in experiential education. Only by doing this will we be able to better understand and therefore improve the practice of experiential education.

Postscript

This paper is based on a publication by Brathay Hall Trust. The work is entitled, "Research from the Ground Up Post Expedition Adjustment," by Peter Allison. Further information available from research@brathay.org.uk or http://www.brathay.org.uk/youth/.
References


