

Dr Steven Timoney (UK)

Interpretation in Higher Education

Author

Steven Timoney is the Programme Leader for the Masters course 'MSc Interpretation: Management and Practice', at the University of the Highlands and Islands in Scotland, UK.

Abstract

I want to reflect on the background to heritage interpretation in higher education more generally, consider its roles and functions (at least at a European scale), and also talk about the connections between theory, practice and research.

Key words

interpretation, higher education

Where we are/ where are we?

Interpretation as an academic discipline developed in parallel with practice through the latter part of the 20th century. It can be found as a component of many different degrees at undergraduate and postgraduate level, but is this a good thing for the wider discipline? It is often seen as a vocational option for non-vocational degrees - the 'what comes after'. In contrast, interpretative practice has grown through this period, but often separately from academia – is this a good thing for the wider discipline? As we move further into the 21st century, it is important to reflect back on what David Uzzell wrote almost 20 years ago, calling for interpreters to recognise that practice is underpinned by theory. Likewise, we need to reflect on where interpretation is positioned within degrees, how it is taught, and what is taught. We also need to ensure that it is underpinned by good quality research, so that as we move forward we are creating a more robust field that enables practice to be underpinned by relevant theory, and a greater synergy between theory and practice.

History of interpretation

As you will know, interpretation in its modern guise originated from the conservation movement in the United States of America (Piersenné 1999; Uzzell 1998). Numerous definitions of interpretation exist which centre round the idea that it is an approach to communication that is more than just the transmission of facts (Beck and Cable 2002; Ham 1992: 3; Tilden 1957). It can explicitly or implicitly have an educational function (Beck and Cable 2002: 7); it can also have an emotional focus, as Interpretation Australia reflects:

“Heritage interpretation is a means of communicating ideas and feelings which help people understand more about themselves and their environment.”
(Interpretation Australia 2011)

It often seeks to do both as a:

“Mission-based communication process that forges emotional and intellectual connections between the interests of the audience and the meanings inherent in the resource.”
(National Association of Interpretation n.d.)

Ultimately, it needs to be engaging.

Interpretation and Higher Education

Now, there may be those who are born with the knowledge and skills to do this effectively; to be able to plan, organise, compose and deliver an experience that engages audiences and achieves the outcomes required by organisations or places. But for the rest of us, it does require some learning...

Interpretation as an academic discipline is young in comparison to many of its peers. It has been seen as something that graduates of other disciplines 'do', without any great consideration of the fact that it requires a different knowledge-base and skillset. Knowing the context isn't the same as knowing how to communicate about it, and that is an idea I will come back to shortly. But first, a reflection on the more recent past.

Provision of heritage interpretation teaching in Higher Education

Getting a picture of what is being taught, where and how, isn't straightforward. Going back to 2001, David Masters and James Carter produced a report for Scottish Natural Heritage; a government-funded body, and the UHIMI; the organisation that was set up to create the University of the Highlands and Islands. The report was called 'Review of interpretation teaching and research in the British Isles'. As you can imagine from the title, the aim of the research was to clarify, what, where and how interpretation was being taught at university level in the region. The report focused on courses where interpretation was taught as a specific module or unit, looking at a number of connected subject areas:

- Interpretation
- Heritage Management
- Conservation
- Museum Studies
- Tourism
- Countryside/ Landscape
- Communications and Design

(Masters and Carter 2001: 1)

Looking at this list, if I'd asked the audience to name the connected subject areas, I believe we would have come up with this list, and a few more fields besides. There's a clear connection between interpretation and these areas; the context of practice.

Studying interpretation in Higher Education today

Bringing us up-to-date, across the globe there are a large number of universities offering degrees and postgraduate awards in interpretation and related fields. A quick look at listings on the National Association of Interpretation (NAI) website shows 128 institutions offering programmes related to interpretation. As you would expect, these are primarily located in North America, but it is interesting to note the wide variety of departments that offer these programmes, including:

- Outdoor adventure
- Applied museum studies
- Outdoor leadership and recreation management
- Communication and culture
- Environmental studies
- Hospitality
- Tourism

- Leisure
- Geography and geology

Again, as with the Masters and Carter report, these subject areas will not come as a great surprise. What it does show is the wide variety of subject areas where interpretation is viewed as being appropriately positioned, and that's a point I'll come back to.

Looking elsewhere, in Australia for example, there are programmes which have interpretation as a core element, including:

- Bachelor's degree in Ecotourism (Flinders University)
- Bachelor's degree in Cultural Tourism (Flinders University)
- Bachelor's degree in Tourism (University of Tasmania)

And in Europe we have a number, including:

- MSc Interpretation: Management and Practice (University of the Highlands & Islands)
- Heritage and Interpretation (Leicester University)
- International Heritage Management (Ironbridge; University of Birmingham)
- Nature Interpretation (Swedish Centre for Nature Interpretation)
- Environmental Education and Heritage Interpretation (Masaryk University, Czech Rep)

So, across the globe, we have a variety of institutions offering an element or, more unusually, full degrees in interpretation.

MSc Interpretation: Management and Practice

To briefly focus on our programme, the MSc Interpretation: Management and Practice, brings us back to the Masters and Carter research, which was the basis for its creation. The research suggested a demand for a postgraduate Masters-level qualification. It identified that there was a need for a flexible distance learning programme (through online Virtual Learning Environment). It was developed through the UHI Millennium Institute and a number of partners from the wider sector, including:

- Bryden Associates
- Forestry Commission Scotland
- Highlands and Islands Enterprise
- Historic Scotland (now Historic Environment Scotland)
- National Trust for Scotland
- Scottish Natural Heritage
- Touchstone Heritage

The programme is fully online, meaning that although we are based in Scotland, we have students based around the world.

The programme ran for the first time in 2005-6. Since then, various changes have been made to it, as a result of further discussion and revision of the knowledge and skills required, alongside University-wide changes to module structure, for example a move from 15 to 20 credit modules. These changes have been made with input from the wider sector to ensure the key knowledge and skills are incorporated, but equally that it also stands up in its own right within the university system. The programme maintains an important balance between theory and practice, as reflected in the applied nature of many of the assessments.

Where is interpretation in HE?

Turning back to the Masters and Carter research, part of the report from 2001 was a literature review of 'interpretation' using search engines, journal and library catalogues. The authors also

sought to identify publications where heritage 'interpretation' was not mentioned in the title but was a key focus of the research. And this is a key point within the field of interpretation, as some research within what we would classify as interpretation is undertaken within these other academic disciplines, and therefore has a different focus and develops from a different field of knowledge and/ or understanding.

As already discussed, the report identified a wide range of degree programmes where interpretation was taught as a specific unit or module:

Table 1: Degree subject area in which interpretation is taught as a specific unit/ module

Subject area	Number of degrees in this subject
Heritage studies/ management/ conservation	13
Tourism	13
Interpretation/ education	5
Countryside/ landscape management	4
Archaeology	4
Leisure/ recreation	3
Building conservation	3
Exhibitions/ design	3
Museum studies	2
Cultural studies/ management	1
Others (including joint honours)	8
Total number of degrees offered	59

(Masters and Carter 2001: 4)

As we can see from this, research programmes were heavily focused on heritage and tourism. The report also identified that these modules were primarily offered at 3rd and 4th year level of undergraduate degrees (Scottish Credit and Qualifications Framework level 9/10; EQF level 6), and at Masters level (SCQF level 11; EQF level 7).

Table 2: Degree type in which interpretation is taught as a specific unit/ module

Degree type	Number of degrees of this type offered
B.A.	12
B.Sc.	8
M.A.	17
M.Sc.	9
Pg.Dip.	8
Other (e.g. HND)	5

(Masters and Carter 2001: 4)

This, in part, may reflect some higher order skills of interpretation, but also the recognition of the applied nature of interpretation. In later years, degrees are looking to produce graduates with skills and knowledge to take into the workplace. This is true of both Honours (the senior years in the UK undergraduate degrees) and certainly any applied Masters.

The report also reflected on the wide variety of subjects the modules focused on, with many simply providing a general introduction to interpretation:

Table 3: Interpretation unit/module subjects

Unit/module/ subject	Number of units/ modules offered in these subjects
General introduction to interpretation	15
Applied interpretation/ interpretation in practice	8
Interpretation and education	5
Interpretive media/ techniques	4
Interpreting history/ archaeology	3
Design	3
Evaluating interpretation	2
Interpretive planning	1
Other	6
Total number of units/ modules offered	47

(Masters and Carter 2001: 5)

The research asked a number of questions and raised a number of issues regarding heritage interpretation in higher education which I think are still pertinent today.

Quality of provision

As we have seen, interpretation is located within other degrees, such as geography and heritage management, as components or modules. We can look at the inclusion of modules on interpretation within other related degrees in two (not exclusive) ways:

- Positive – raising awareness; importance; practical application
- Negative – anyone can just ‘do’ interpretation; issues around the quality of provision

- **Positives**

By including interpretation in degrees that we would classify as cognate, we are widening knowledge and understanding of what interpretation is; what it can be used to achieve, and how this can be done. Though it is important to acknowledge this is not possible within one module. So, it needs to be a more coherent and critical part of a course.

One of the continuing issues we encounter is ‘what is interpretation?’ As you know, there are countless definitions – I have already referred to a number at the start of this presentation. And that’s without having to manage the additionally confusing alternative uses of the term relating to bible studies and language translation. It is this lack of a wider public understanding of the term that causes issues both within the working environment and the academic environment. Anyone working within the field of interpretation will recognise the irony of having to explain what we mean by ‘interpretation’ to a wider public, which usually requires elaboration (e.g. heritage interpretation) and clarification: “if you visit an archaeological site or museum...” Therefore, increasing knowledge and awareness of interpretation and what it can achieve must be a positive thing.

This is, of course, predicated on the quality of content and teaching being high, which I suspect is not always the case, leading us into the negatives.

- **Negatives**

One of the key points that Masters and Carter raised in their report, and one that I would suggest continues to this day, was the varying quality of interpretation provision within higher education. And this is something that may be at the heart of much of the criticism towards interpretation in higher education:

- Who is teaching interpretation?
- What are they teaching?

- What about the quality/ validity of the provision?
- Who is verifying the teaching?

And these are all valid questions. Though, as a balance, I would also argue that this is a criticism of interpretation training at all levels.

The lists I showed you earlier will only be the tip of the iceberg in terms of incorporating interpretation within degrees – these are organisations who are more aware of what interpretation is and how it is used. There will be many more degrees where interpretation is included in some form.

There is also the challenge that many degrees that are purely theoretical (e.g. history) view interpretation/ interpretative roles as one of the exit routes for their graduates; for example, a post in a museum service. But through their degrees they don't learn any/ many interpretive skills. It seems to be assumed that if graduates have the context knowledge; for example, they have studied Roman archaeology or marine ecology, that *inherently* they will have the skills to be able to take this into the workplace in an interpretation role. As we are aware, this simply isn't the case, and won't result in fully effective outcomes for any project or role.

In this way, interpretation is seen as a soft skill by many in the academic world; not something that requires any real training or learning, but rather something that can be worked out or picked up on the way with no real effort. The context is seen as the value in this case, and students are not taught interpretation skills. Therefore, a skill and role that we would (I'm assuming) say is critical to the success of a site or experience is undervalued.

Therefore, there is an issue for academic institutions relating to their knowledge and understanding (or lack) of what interpretation is and where it should sit. This is critical as it reflects the way interpretation is perceived – is it an applied part of the social sciences? Is it a more creative contextualisation of business, tourism and management? We need increased awareness of what interpretation is within academia as well as the wider world to strengthen the position of interpretation. This may be training day courses, but it also needs to be University-level qualifications.

This lack of value for interpretation learning and training, whatever the level, is not however the sole proviso of higher education. Within the wider field of interpretation practice there are specialisms, such as graphic designers, who may downplay or be unaware of the role, value and importance of the interpretation planning process compared to their own field of expertise – for example viewing it solely as 'writing text for panels'. This is the constant challenge. We need to increase knowledge, understanding and appreciation of the importance and value of interpretation for a variety of purposes or outcomes.

Developing higher education provision

Across Europe, which has an ever-changing political landscape, as we are all aware, higher education is recognised as an important area for development.

Interpret Europe's own Freiburg Declaration on Heritage Interpretation states that:

“There is an urgent need, throughout Europe, for increased knowledge about the value of heritage interpretation among responsible bodies, and the promotion of good practice in heritage interpretation through the training of professional and volunteer interpreters” (Interpret Europe 2011).

Likewise, the ICOMOS Charter recognises the central importance of interpretation:

“7.5 The training of qualified professionals in the specialised fields of heritage interpretation and presentation, such as content creation, management, technology, guiding, and education, is a crucial objective. In addition, basic academic conservation

programmes should include a component on interpretation and presentation in their courses of study” (ICOMOS 2008: 13).

So, embedding interpretation and having it as a core skill set is viewed as critical within our field. The European Commission/ EACEA/ Eurydice report ‘Education and Training in Europe 2020’ (2013) stated that, across most of the territory, governments were seeking to introduce measures to widen participation and access to higher education. The same report reflects on the needs for greater integration between higher education and business/ practice. It is working out a mechanism through which this can be realised for interpretation that is the key challenge for us. What we can view as a need to cross borders between the two. Three key points from that report are pertinent:

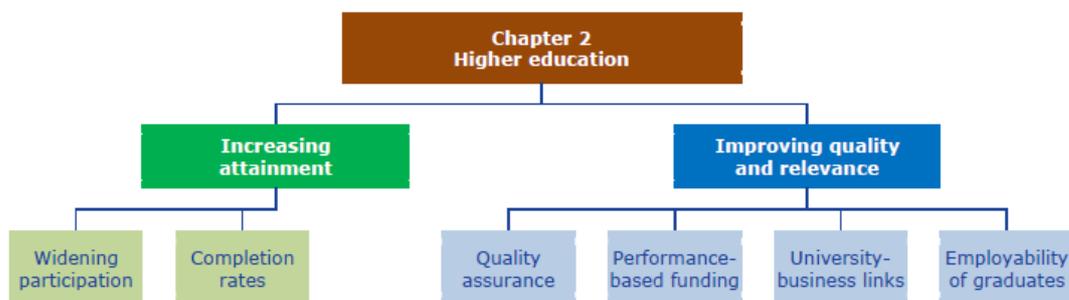
- Increasing employer engagement
- Upgrading skills
- Reskilling and upskilling

Roles and values

The report reflects on the role of higher education as a key area for development across the EU. Higher education is recognised as a key factor in terms of improving the social, cultural and economic position through increasing the numbers of people with qualifications, and improving the quality and relevance of those qualifications. Linking this in to the promotion of European heritage must be a key element of strengthening the EU by being able to celebrate diversity and unity.

The European Commission report reflects on two key aims for higher education (see diagram below):

- Increasing attainment – more general approach to HE and value of HE
- Improving quality and relevance – for us, relevance of this kind of training/ learning qualifications



(European Commission/EACEA/Eurydice 2013: 35)

Interpretation can be a valued part of this, through higher education provision, given its potential and wider role within tourism, culture and heritage. It can take on many guises, and contribute more broadly to community engagement and social cohesion, as well as a key function within visitor experiences (refer to other papers from conference).

Done effectively, the applied nature of interpretation should improve the employability of graduates. Likewise, it has the potential with regards to university-business links through applied research and placements. And through these links the development of theory that informs practice.

Criticism of higher education

I know that not everyone will agree with this perspective. At the Interpret Europe conference in Krakow two years ago there was a level of criticism of higher education and its approach to interpretation. It was viewed as theorising and not living in the real world – the stereotype of academics in their ivory towers. This was challenged at the time, and I think it is important that we don't fall back on stereotypes of what higher education represents, nor what it does/ or doesn't bring to the wider field of interpretive practice. Training is critical at whatever level – the majority of interpreters may not need Masters-level qualifications, but we do need an increasingly robust and strong sector, or community, if we are considering crossing borders, with a clear understanding of interpretation and how it fits into organisational and cultural structures. With Interpret Europe, we have the potential to do this, to create a stronger link between higher education and practice.

Why have interpretation in higher education?

One simple answer to this question is that there is a demand for higher education qualifications in this subject area. People want to learn at a level beyond training; many people are looking for the validation of a university degree.

The existence of higher education programmes and the potential development of new ones is predicated on a perceived level of demand for qualifications. Any programme, from a day session of training to a degree, requires students.

Is there (sustained/ sustainable) demand?

The counterpoint of discussion on provision of higher education qualifications is: what *is* the demand? And in part that is a catch-22 situation. Until there is increased knowledge and understanding of what interpretation is and what it can be used to achieve, then its true value will not be recognised. The danger of over-provision of higher education qualifications means that supply may then outstrip demand.

So, then we need to ask the question – where or what are we producing graduates for? Is there a risk of over-supply? In terms of graduate trajectory, most non-vocational degrees will reflect on the transferable skills that graduates will develop through their studies. Interpretation is a more applied field, but the applied skills may still be viewed as very valuable when taken into another context, for example, effective communication, project management skills and design skills, to name a few.

In comparison, for example in the UK, geography graduates are highly valued within the workplace not for their specific geographical learning (which can take myriad forms within a subject as all-encompassing as geography), but the general skills they gain, such as the ability to collect, analyse and process data and present information in different forms, alongside analytical and critical thinking. Higher education-level qualifications provide the opportunity to develop a wide range of skills applicable within the wider workplace.

Done correctly, graduates within degrees in interpretation (certainly at Masters-level) will have a wide range of applied skills that can be transferred to wider working environments, not just within the heritage sector.

Theory – the cornerstone of practice

While creating engaging, enjoyable and memorable experiences may be at the heart of much of what we seek to achieve, some form of learning among visitors is still often a primary aim, as is attitude and/ or behaviour change. And how we approach this is underpinned by theory, whether that is implicitly or explicitly acknowledged.

Various authors have discussed the role of theory in informing interpretation practice. For instance, Sharpe (1976) acknowledged the routes/ roots of interpretation in the work of Plato and Aristotle and experiential learning, alongside that of Cicero, Horace and Quintilian (1976: 23-24). He also discussed Erasmus two millennia later and a more humanistic approach to learning (ibid.).

Patrick Lehnés and James Carter recognised in their paper at the Krakow conference; subsequently produced as an e-book through the InHerit project, the philosophical foundations of heritage interpretation:

“What might at first sight sound like a rather academic question is highly relevant for practice. The philosophies, the paradigms of a discipline, provide orientation for those who work in it. They guide the thinking and thus they guide the direction in which a discipline develops. They shed light on the meaning of the discipline of heritage interpretation within a bigger picture – in our case they explore the question of what heritage interpretation can mean for European societies” (2016: 3).

Interpretation as a field of work and enquiry is underpinned by academic theories across a range of disciplines. From a learning/ educational perspective, we are informed by psychological theories of learning, communication, memory, language and social behaviour. From a contextual perspective, we are informed and influenced by the changing paradigms within these fields. As noted in the ICOMOS Charter:

“From the vast range of surviving material remains and intangible values of past communities and civilisations, the choice of what to preserve, how to preserve it, and how it is to be presented to the public are all elements of site interpretation. They represent every generation’s vision of what is significant, what is important, and why material remains from the past should be passed on to generations yet to come” (ICOMOS 2008:2).

This has a knock-on effect on what we interpret and how we interpret it. Interpretation is not unique in this respect – within the wider field of heritage there is focus on ‘the present’ in the way heritage is perceived. In this way, those aspects of the past perceived and valued in the present are preserved and presented as heritage. From an interpretation perspective, the products of our endeavours are as much time-limited by changing ideas and theoretical understandings as from material lifecycles.

From a planning perspective, we are informed by broader planning and management theories. Developing the field from an academic perspective requires continued research, not just on the elements we are interpreting, but how we interpret them. As stated in Principle 7 of the ICOMOS charter (2008):

“Continuing research, training, and evaluation are essential components of the interpretation of a cultural heritage site” (ICOMOS 2008: 13).

The importance of research informing interpretation practice is critical – it needs to be evidence-based. Doug Knapp makes this point at the start of his book ‘Applied Interpretation: Putting Research into Practice’ (2007):

“This work is an attempt to offer the field of interpretation strategies, methods, experiences and other programmatic variables that have been found through research to have lasting impacts on visitors. The case studies, scenarios, and findings found in the [book] are a product of 15 years of research in the field of interpretation, environmental education, and science education. Therefore, the content is set apart from other resources due to its reliance on research – and not conjecture.”

I’m not advocating everyone drop everything and pick up a copy of Knapp’s book, but the key point he makes in this statement is the value of properly informed research.

Where should research sit? Where should it take place? By whom? Interpret Europe's own Freiburg Declaration on Heritage Interpretation advocates that education and training institutions and organisations should:

“Develop and promote academic and social research into the effectiveness and impact of heritage interpretation on natural and cultural heritage sites, tourism destinations and local communities” (Interpret Europe 2011)

Higher education has a key role to play here, but it is imperative that researchers have the knowledge and skills to be able to undertake effective research.

Research – effectively evaluating and informing theory and practice

Masters and Carter's 2001 research paper raised the issue of published research not being: “easily accessible to practitioners, who have neither the time nor the inclination to study refereed papers for information that might be of use in their work. There is, as ever, a need to bridge this gap more effectively” (2001: 12).

Again, this is not something that is exclusive to interpretation. In general, research undertaken in universities is often focused towards producing journal articles with a specific audience in mind, to secure future research funding. This will not always align with communicating that information to a wider audience, though in places this is changing.

It is important then that we do make the move from academic/ theoretical to the application of this knowledge, in our case through practice. Otherwise any *real* value is lost. If the perception of separation of theory and practice is correct, then we need to ask: how do we integrate better?

Universities have a key role to play in helping to improve standards within interpretation, through research and evaluation, so that practice in the field isn't elevated to 'best practice' without proper scrutiny. Only through effective, thorough research can this be identified and this is where we need to acknowledge, as a sector, that there is still room for development.

It is important to clarify that I am not talking about evaluation, though there are many similarities. We need academic research so that we have an evidence-base to validate what we do and how it works. There's still a lot of work to do to square that circle. There are no quick or easy answers, though universities are increasingly recognising the need to get research out to a wider audience, and, therefore, the importance of greater open access to research. We have the potential to turn many of these challenges into opportunities, if we can find the appropriate mechanisms through which to develop closer links between higher education and interpretation practice.

Crossing borders

To draw this towards a conclusion, I did want to try and consider the main theme of the conference, crossing borders, with a higher education context. I like a challenge!

And it made me think about this idea of borders, physical or metaphorical. Considering interpretation and higher education, many of the underlying principles of interpretation come from other academic fields (for example, psychology); while the context is generally within other disciplines, for example, archaeology or nature conservation. Interpretation as a field of study is constantly crossing, blurring and removing borders between these disciplines. It can be greater than the sum of its parts. And, ultimately, we need to continue to grow and cross the border between theory and practice.

The principles and theories of good interpretation that we seek to promote (and this is with the acknowledgement of different interpretation models) should be deliverable within different national contexts.

Where from here?

Interpret Europe is a young organisation with a great opportunity to influence how interpretation theory and practice develops within our continent and beyond. It is important that we can identify the best ways to work together to create an effective, sustainable and developing field of interpretation.

First, it is important that an holistic approach is taken to the subject, rather than having it as a 'bolt on' to other degrees. Paying lip-service to interpretation and making reference to Tilden will not provide graduates with the knowledge and skills that the field requires. We also need to consider that if it is only one element of a degree, e.g. heritage management, what are the key elements which must be included? Do we compromise on what will be needed, for example covering all of InHerit's competencies very briefly, or only focusing on a few in more depth.

This leads to the second point – that delivery requires knowledgeable lecturers/ tutors who have a good understanding and experience of what interpretation is and what it can do, as opposed to something that many people just *think* they can do. Where interpretation is situated will impact on the quality of the provision – if it is provided by academics whose skills area is not interpretation, then we are caught in a vicious cycle of poor quality being provided without recourse.

Third, there is a demand from employers for suitably qualified students; and, in my opinion, from a wider interpretation perspective, it is critical that we have people with an interpretation background in positions of power and decision-making to ensure that the value of interpretation is not lost.

And so higher education has a key role to play in the development of heritage interpretation in Europe: education, skills, research and theory, to help the field develop and progress, and to be the force for change that David Uzzell called for:

“Interpretation should be a force for change. It needs to be as powerful as those forces which it has been designed to counter. It will only be a force for change when practice is built upon firm theoretical and research-based foundations” (Uzzell 1998: 23).

References

Beck, L. and Cable, T. (2002) 'The meaning of interpretation'. *Journal of Interpretation Research* 7 (1), 7-16 Ham 1992: 3.

European Commission/EACEA/Eurydice (2013) *Education and Training in Europe 2020: Responses from the EU Member States*. Eurydice Report. Brussels: Eurydice.

ICOMOS (2008) The ICOMOS Charter for the presentation and interpretation of cultural heritage sites. http://www.icomos.org/charters/interpretation_e.pdf

InHerit (n.d.) *Professional Development in Heritage Interpretation Manual*
<http://www.interpretingheritage.eu/sites/default/files/Manual-InHerit-EN.pdf>

Interpretation Australia 2017 <https://www.interpretationaustralia.asn.au/about-interpretation-australia/interpretation/>

Interpret Europe (2011) Freiburg Declaration. <http://www.interpret-europe.net/fileadmin/Documents/publications/Fbg-declaration-web.pdf>

Knapp (2007) *Applied Interpretation: putting research into practice*. Fort Collins: NAI.
Lehnes, P. and Carter, J. (2016) *Digging Deeper: Exploring the Philosophical Roots of Heritage Interpretation*. Alden Biesen: InHerit.
http://www.interpretingheritage.eu/sites/default/files/InHerit_Ebook_1.pdf

Masters, D. and Carter, J. (2001) *Review of interpretation teaching and research in the British Isles*. Scottish Natural Heritage Review No.129. Battleby: SNH.

National Association of Interpretation n.d.
[http://www.interpnet.com/NAI/interp/About/About Interpretation/nai/ About/what is interp.aspx?hkey=53b0bfb4-74a6-4cfc-8379-1d55847c2cb9](http://www.interpnet.com/NAI/interp/About/About%20Interpretation/nai/About/what%20is%20interp.aspx?hkey=53b0bfb4-74a6-4cfc-8379-1d55847c2cb9)

Pierssené, A. (1999) *Explaining our World: an approach to the art of environmental interpretation*. London: E & FN Spon.

Sharpe, G. (1976) *Interpreting the Environment*. New York: John Wiley and Sons

Tilden, F. (1957 [1977]) *Interpreting Our Heritage, 3rd edition*. Chapel Hill: University of North Carolina Press.

Uzzell, D. (1998) 'Interpreting our heritage: a theoretical interpretation'. In *Contemporary Issues in Heritage and Environmental Interpretation: Problems and Prospects*. eds. Uzzell, D. and Ballantyne, R. London: The Stationary Office, 11-25.