University of the Highlands and Islands
Oilthigh na Gàidhealtachd agus nan Eilean

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The Feasibility of Implementing National Training Standards for German Protected Areas

An Analysis of ParcInterp Standards as a Means for Effective Change

MSc Interpretation: Management and Practice
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Abstract

Within the ParcInterp programme, three German associations approved training standards for interpretation in protected areas, in combination with education for sustainable development (ESD). Issues of implementation were the subject of the study.

A literature review showed that interpretation has developed slowly in Germany. Conditions in different *Bundesländer* vary, and there is no central administration for protected areas. Rangers have neither higher education nor specified career fields. But describing the role of interpreters as facilitators within the interpretive triangle (German model) might give weight to the role of interpretation within the sustainability debate. While there are no other comprehensive interpretive training programmes, the ZNL (national nature guiding programme) adopted ParcInterp standards.

In-depth interviews with key stakeholders identified quality as the strongest argument for implementation, while lack of communication and the need for staff development were stated. Based on these findings, a questionnaire survey among park managers identified a work overload and a lack of funds as barriers for uptake. Other results were that personal services were rated higher than non-personal, ESD higher than interpretation - but global justice rather lower within ESD. The survey suggested that there are different assumptions between managers and employees, that not all rangers are organised through administrations, and that nature and geoparks should also be considered. Qualitative and quantitative research determined that visitor services are very relevant, requirements in that field increase and more training is welcome, while certification is not essential.

Funding and staffing, communication and motivation were identified as most important to implementation, and communication and motivation through training interpretive agents, to connect different fields and levels and to succeed in stakeholder dialogues, should all be strengthened.

It was suggested that Europarc Germany take a leading role within partner organisations, and that a comprehensive implementation plan be established, based on these findings.

Acknowledgements

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The image on the cover was taken by Gertrud Hein during the certification of staff in the Eifel National Park. Without all the participants from protected areas engaged in building up the ParcInterp programme, this study would not have been possible.

My special thanks go to Michael Glen, not only for proof-reading this study at various stages, but for introducing me to Scottish heritage and for demonstrating convincingly why the Scottish Highlands and Islands were the right place to set up a Centre for Interpretation Studies, inspiring students from all over the world to undertake research in interpreting our heritage.

Except when otherwise stated and acknowledged, I certify that this dissertation is my sole and unaided work.

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List of Abbreviations

AHI	Association for Heritage Interpretation (UK)
ANU	*Arbeitsgemeinschaft Natur- und Umweltbildung* [Association for Natural and Environmental Education]
BANU	*Bundesweiter Arbeitskreis der staatlich getragenen Bildungsstätten im Natur- und Umweltschutz* [Nationwide Working Committee of Governmental Education Centres for the Protection of Nature and Environment]
BIBB	*Bundesinstitut für Berufsbildung* [Federal Institute for Vocational Education]
BfN	*Bundesamt für Naturschutz* [German Federal Agency for Nature Conservation]
DEHOGA	*Deutscher Hotel- und Gaststättenverband* [German Association of Hotels and Restaurants]
DESD	Decade of Education for Sustainable Development (UN)
ESD	Education for sustainable development
GNL	*Geprüfter Natur- und Landschaftspfleger* [Approved Nature and Landscape Keeper]
HNE	*Hochschule für nachhaltige Entwicklung Eberswalde* [Eberswalde University for Sustainable Development]
IE	Interpret Europe - European Association for Heritage Interpretation
INA	*Internationale Naturschutzakademie* International Academy for Nature Conservation (Germany, Baltic Sea)
IUCN	International Union for Conservation of Nature
LEADER	*Liaison entre Actions de Développement de l´Economie Rurale* Linkage between Actions for the Development of Rural Economy
MAB	Man and the Biosphere (UNESCO programme)
NAI	National Association for Interpretation (USA)
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment (OECD)
SD	Sustainable development
TOPAS	Training of Protected Area Staff (EU Leonardo project 1999-2003)
UK	United Kingdom
UN	United Nations
USA	United States of America
USNPS	United States National Park Service
UNESCO	United Nations Educational, Scientific, and Cultural Organization
VDN	*Verband Deutscher Naturparke* [Association of German Nature Parks]
ZNL	*Zertifizierte/r Natur- und Landschaftsführer/in* [Certified Nature and Landscape Guide]

List of Symbols

⇨	Reference to a subchapter in this study
➲	Reference to the list of German quotations (following list of references)
§	Section sign used to refer to a legal code

1. Introduction and Rationale

In 2003, a vocational training course ‘Basic Interpretive Skills’ took place in a German national park. It was planned and run by interpretive trainers from Italy and Germany as one part of the EU Lifelong Learning Project TOPAS (Training of Protected Area Staff). Since then there has been modest but continuous work on the development of standards and criteria for heritage interpretation in German protected areas.

The most recent stage of this work is ParcInterp, a programme that seeks to combine heritage interpretation and education for sustainable development (ESD). The programme was set up by three nationwide organisations in 2008 and it is mainly focused on training. After three ParcInterp pilot courses, a catalogue of quality standards for interpretation and for interpreters was adopted by the partner organisations in 2011.

To date, ParcInterp has not been implemented on a wider scale. In order to find out how the ParcInterp training courses could be successful before the partner organisations invest in them, this study sought to answer the following questions:

1. What is the demand for training and certification in heritage interpretation and ESD in German protected areas and how can it be addressed?
2. What are the issues relating to uptake of training and standards in interpretation and ESD in German protected areas?
3. What training and programmes for interpretation and non-formal ESD are currently delivered in Germany and how does ParcInterp relate to these in terms of standards and delivery of training?
4. To what extent do the ParcInterp certificate and standards address the demands from German protected areas?

5. Is the ParcInterp system suitable for effective interpretation management and practice in German protected areas?

To answer these questions, different perspectives were investigated. The study has been informed by:

- a literature review highlighting the situation in Germany;
- in-depth interviews with representatives of the partner organisations;
- a survey among the park managers of protected areas in Germany.

All primary research was undertaken in German and translated into English before processing. The original spelling German and American quotations and references has been retained.

In in-text citations, the name ‘Ludwig’ refers to the author who was involved in the development of ParcInterp as head of the managing partner *Bildungswerk interpretation*.

2. Literature Review

The literature review provides the context for this study in terms of:

1. roots and development of heritage interpretation in Germany;
2. roots and development of ESD in Germany;
3. organisational backgrounds of German protected areas;
4. components and principles of the ParcInterp training system.

2.1 Heritage Interpretation

2.1.1 Roots of Heritage Interpretation

Since 1940, 'heritage interpretation' has been used for information and education services within the US National Park Service (NPS) (Mackintosh 1986). But within their context, the idea of interpreting our heritage is much older (Brochu and Merriman 2002). In 1871, John Muir, born in Scotland and considered the founding father of conservation in the USA, wrote:

> "I'll interpret the rocks, learn the language of flood, storm and the avalanche. I'll acquaint myself with the glaciers and wild gardens, and get as near to the heart of the world as I can" (Wolfe 1978:144, Sharpe 1982:VII).

It was some time before the journalist Freeman Tilden, then working for NPS, established six teachable principles for interpreters (Appendix 2-1) which were described in *Interpreting Our Heritage* (Tilden 1957). Tilden defined heritage interpretation as:

> "an educational activity which aims to reveal meanings and relationships through the use of original objects, by firsthand experience and by illustrative media, rather than simply to communicate factual information" (Tilden 1957:8).

While Muir comprehended interpretation as reflection of his own perception of natural phenomena, Tilden aimed to inspire others to interpret natural and cultural heritage. He was the first author to offer a coherent approach, although others before him followed similar principles (Tilden 1957). One early example developed up to certification level was the 'trail school' in Rocky Mountains National Park (Mills 1990, first published in 1920).

As interpretation in the USA can be traced back to transcendentalists of the early 19th century like Emerson or Thoreau (Trommer 1992), several of Tilden's approaches are also found among German poets and thinkers of that time (Jung 2011, Ludwig 2011a). Tilden introduces one chapter of *Interpreting Our Heritage* with a quotation from Heinrich Heine (Tilden 1957:89). Other German authors that can be mentioned are Ernst Rudorff, Alexander von Humboldt, Johann Wolfgang von Goethe and Friedrich von Hardenberg alias Novalis, who wrote in 1789:

> "To be a herald of nature is a fine and holy calling […] For not the naked breadth and depth of knowledge, nor the ability to weave this knowledge into appropriate names and experiences and to replace the […] foreign-sounding words with familiar ones, not even the talent […] to order natural phenomena in […] accurate and shining images, […] all of this makes not the true challenge of a herald of nature […] He who seeks everything in her […] will only recognise his mentor and nature's confidant in him who speaks of her with reverence and faith" (Hardenberg 1989:104-105, first published in 1798➲1, trans. by Pankow H. in Ludwig 2003a:66).

In the UK, Tilden's idea of interpretation fell on fertile ground during the 1960s. While heritage associations already existed, the use of the term was recommended by officials for visitor activities (Aldridge 1970), and within 20 years of *Interpreting Our Heritage* being

published, in 1975, the first British handbooks on interpretation were produced (Aldridge 1975) and the ‘Society for the Interpretation of Britain’s Heritage’ was founded (AHI 2012).

2.1.2 Slow Development of Interpretation in Germany

Compared to its take-up in the UK, interpretation’s development in Germany has been slower. While Aldridge (1989:81) states: “Romanticism is a key concept in environmental interpretation”, the dominating perspective in Germany – a cradle of romanticism – has been far less emotional since the second world war. In West Germany, where the ideas from the Western world might have been adopted, information was often presented on an explicitly rational basis (Zoepp 2005, Hellwig 2007).

In addition, there was no institution comparable to NPS or with one of the UK's large heritage organisations. It took until 1970 for the first German national park to be founded (Pöhlmann, Pöhlmann, and Schmeller 2010), and until 1985 for a foundation to be set up for the protection of cultural monuments, inspired by ‘The National Trust for Places of Historic Interest or Natural Beauty’ (Deutsche Stiftung Denkmalschutz 2012).

It was in 1978 that interpretation was mentioned for the first time in German literature (Dümmler 1978). The popular publisher Horst Stern commented: “In Germany there is absolutely nothing that could be compared with it. There isn’t even a term to express the whole meaning of the word” (Stern 1978:6➲2). This delay is critical in understanding the situation of interpretation in Germany.

In 1980, a conference took place in the then only German national park, where interpretation was first explained by representatives from UK and USA (Townsend 1981, Watson 1981). At that time several approaches to environmental education were in existence,

among them two which had originated from the USA (Figure 2-1). But heritage interpretation did not really gain ground.

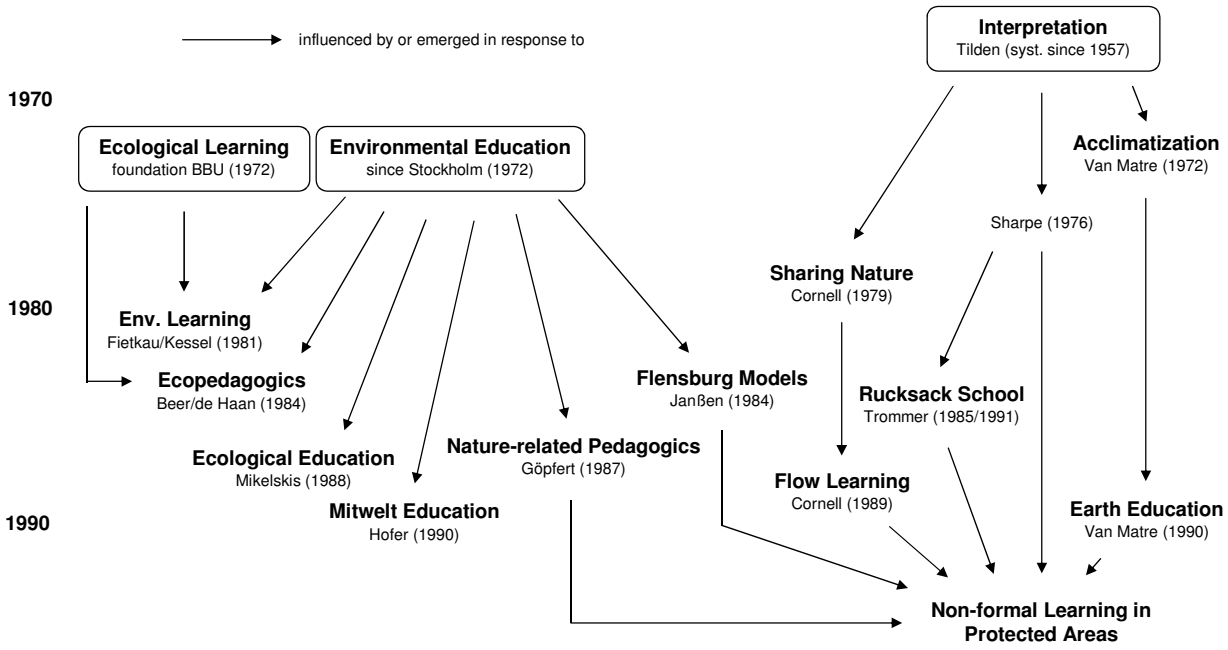

Figure 2-1 Trends of natural and environmental education from 1972 to 1990 and their influence on the educational work in German protected areas (Ludwig 1995, original German version: Appendix 2-2)

The first practical attempt to implement interpretation in Germany was undertaken in 1985, influenced by experiences from Yosemite National Park, when the *Rucksackschule Naturpark Harz* (Harz Nature Park Rucksack School) was set up as a two-year project (Trommer 1985). *Naturinterpretation* (nature interpretation) was the inspiration for this initiative and was explained, in that context, as "the symbiosis of outdoor education and didactics of ecology" (Trommer 1991:14➲3).

In 1986, interpretation achieved further attention through *Umwelterziehung in den USA* (Environmental Education in the USA), written by a geography teacher trainer (Knirsch 1986). It is interesting to note that interpretation as a characteristic element of non-formal learning (Ham 1992, Appendix 2-10) was mainly discussed by the formal educational sector, and not by conservationists, but by geographers and biologists. Janßen, a university

biology professor, like Trommer, defined several *Interpretationsfelder* (interpretive fields - Janßen 1990:21) which were used for evaluating landscapes against a scientific background and the first activities that were officially called *Interpretationsgänge* (interpretive walks) were also planned in a biological context (Honermann 1993:118).

While interpretation did not have any institutional background at the time, *Bildungswerk interpretation*, a company for interpretive training, planning and consulting, was established in 1993 in one of Germany's national parks as "an important cornerstone for the integration of the concept" (Bauszus 2004:23➲4) and viewed as the "centre for heritage interpretation in Germany" for the coming years (Zoepp 2005:46 and Hellwig 2007:14➲5). Although an attempt to found a German association for interpretation failed in 1995 (Ludwig 2003b), some widely-used practices have emerged. One was the *Interpretationsdreieck* (interpretive triangle) (Figure 2-2), which became "the most important model of interpretation" (Detel 2007:27➲6). Hermes (2010:57➲7) states: "The model is only used in Germany and does not explicitly find itself in the American principles. This suggests that there is a unity in the criteria in Germany". This observation is confirmed by Bauszus (2004), Zoepp (2005), Hellwig (2007), Heinemann (2012), and Molitor (2012).

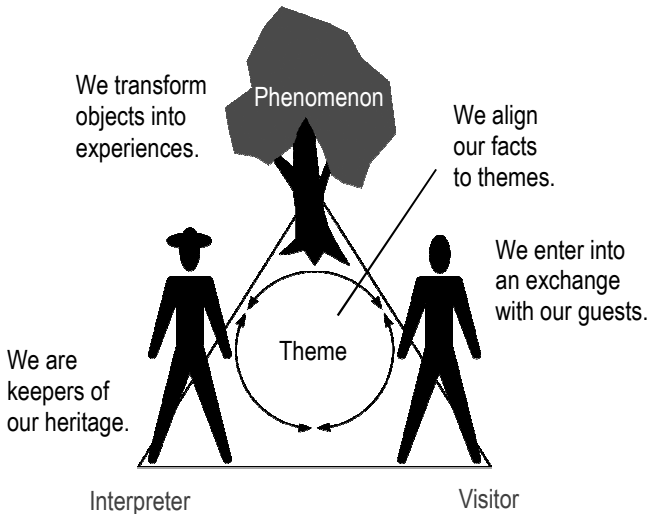

Figure 2-2 Interpretive triangle (Ludwig 2012b:10)

Although that unity is distinctive, there are similar approaches from other countries. The model itself was inspired by the “interactive threesome” (Lewis 1989:22) and first used in the Sächsische Schweiz National Park (Ludwig 1995). Here it was discussed against the background of the communication concept of theme-centred interaction (Cohn 1992). Figure 2-3 shows that there were other authors creating parallel models.

Figure 2-3 Triangular models showing fundamental relationships in heritage interpretation (Pierssené 1999:5, Gross and Zimmerman: 2002:134, Brochu 2003a:93)

Apart from these examples, in Germany the assumed qualities of interpretation, expressed by short sentences in Figure 2-2, are basically derived from the triangle, which was internationally introduced by Ludwig (2003a), in a more significant version presented by Bauszus (2004) (Appendix 2-3), and later examined by Hermes (2010).

“As essential criteria at the level of methods, all experts designate the core elements of the interpretive triangle. In this context, the theme that ties the triangle together, is playing a fundamental role. As a guiding principle it takes the part of the red thread” (Hermes 2010:46➲8). The “red thread” (*roter Faden*) is a common metaphor in Germany that can be traced back to Goethe, who in 1809, described, in a metaphorical way, the function of a tracer thread in the ropes of the British navy (Goethe 1972). Tilden promoted “the revelation of a larger truth that lies behind any statement of fact” (Tilden 1957:8). And strengthening the central role of themes in interpretation was particularly stipulated by Ham (1992).

There was an undocumented debate among ParcInterp trainers in 2010 as to whether or not the term 'interpreter' was misleading, because – especially in respect of ESD – the process of interpretation itself should be done by the visitor, while the interpreter provides supporting as a "facilitator of meaning making" (Ham 2013:82). Replacing the term 'visitor' in the interpretive triangle by the word 'participant' according to the didactic principles of ParcInterp (Appendix 2-5) was considered, because interpretation can also be related to residents on sites (e.g. Brochu and Merriman 2011). However, this debate was not underpinned by theory, and it was decided to follow the established terminology because partners and participants might be confused by modifications, and because ParcInterp is explicitly concerned with visitor services in protected areas.

2.1.3 TOPAS and Transinterpret – European Projects with German Management

In 1999, at a time when still no research on interpretation existed in Germany (Wohlers 2001), German interpreters became involved as leading partners in two European projects that were important for the further development of interpretation: TOPAS and Transinterpret.

TOPAS (Training of Protected Area Staff) was a Leonardo project lasting from 1999 (NNA 2012) to 2006 (BIBB 2012). It evolved from nature conservation and was coordinated by Harz National Park (NNA 2006). The aims were "to:

a) develop training courses leading to a high standard of new vocational qualifications

b) develop standards for the continuing training of staff in European protected areas

c) publish training materials on the TOPAS website to facilitate distant learning

and by so doing, contribute to the conservation of the European natural heritage" (Clarke 2006 cited in Kopylova and Danilina 2011:55).

One result of TOPAS was the one-week pilot course called ‘Basic Interpretive Skills’ which emerged from an Italian-German cooperative initiative in 2003 (Ludwig 2003a) and was further developed to a tripartite certification course with support from the German Federal Agency for Nature Conservation (BfN) and Europarc Germany in 2004, based on detailed evaluation by BfN (Ludwig 2004). In Germany, this provided the first opportunity for staff of protected areas to become certified as heritage interpreters; between 2004 and 2008, 48 participants were certified (Hermes 2010).

In 2008, further developments led to a declaration by three nationwide organisations: Europarc Germany, the German Ranger Association and the German Association for Natural and Environmental Education (ANU) for the implementation of ESD-oriented quality standards for natural and cultural interpretation in German protected areas. This was the start of ParcInterp (Forkel-Schubert and Zoepp 2010).

Transinterpret, on the other hand, was a LEADER project lasting officially from 1999 (Lehnes and Zanyi 2001) to 2008 (Lehnes and Jahn 2007) coordinated by geographers from Freiburg University (Lehnes 2007). At an international meeting in 2000 in Germany, Transinterpret was the springboard for founding the European Network for Heritage Interpretation (Lehnes and Zanyi 2001) and encouraged its transformation to the European Association for Heritage Interpretation (Lehnes and Jahn 2007). This body, ‘Interpret Europe’, was established in 2010 in Slovenia and since then has been managed from Freiburg, Germany with a multi-national Supervisory Committee chaired by a member from Scotland (European Association for Heritage Interpretation 2012).

Compared to TOPAS, Transinterpret was more focused on marketing than conservation (Hellwig 2007, Hermes 2010). It intended to replace *Natur- und Kulturinterpretation*

(heritage interpretation) by *Besucherorientierte Interpretation* (visitor-oriented interpretation) and introduced the term *Landschaftsmarketing* (landscape marketing) to promote interpretation (Lehnes 2001). At this point a debate started within the small community of German interpreters about the risk that "interpretation might be exploited as pure communication approach, while the idea of protection of nature and culture – inherent according to Tilden – is neglected" (Zoepp 2005:47➲9). Because there was no common understanding about heritage being the focus of interpretation, a second attempt to set up a national organisation failed in 2010 after lengthy debates.

Associated with Transinterpret, geographers at Göttingen University established ZELT - *Zentrum für Landschaftsinterpretation und Tourismus* (Centre for Landscape Interpretation and Tourism) in 2002, and organised an international conference on interpretation and tourism in 2003 (ZELT 2012). While theTransinterpret project was completed in 2007 in Germany and 2009 in Greece (LEADER-Aktionsgruppe Südschwarzwald 2012), ZELT continues as an association, but is mainly dedicated to tourism research (ZELT 2012).

2.1.4 Interpretation as a Value-Oriented Concept

Molitor (2012) describes heritage interpretation as it is practised in Germany today as *werteorientiertes Konzept* (value-oriented concept) (Molitor 2012:151) which differs from other concepts (Figure 2-1) that are established and remain largely unaffected by the new approach.

This situation differs from the situation in other countries where strong institutions assumed the use of the term and ascribed it to specific activities or units. Thus, from a specific date, various communication activities became identified as interpretation. In Germany, with

relatively few people involved, it was not difficult to agree standards for interpretation, conversely, because so few were involved; implementing them widely is more difficult.

2.2 Education for Sustainable Development (ESD)

"The founding value of ESD is respect: respect for others, respect in the present and for future generations, respect for the planet and what it provides to us (resources, fauna and flora)" (UNESCO 2012a).

Since the 1970s, sustainability has become an international guiding principle (Grober 2010, Table 2-1).

1972	UN Conference on the Human Environment - Stockholm Declaration (UNEP 1972)
1977	UNESCO Conference on Environmental Education in Tiflis (DUK 1979)
1987	The idea of sustainable development is introduced by the Brundtland Commission (WCED 1987)
1992	Agenda 21 is adopted at the UN Conference on Environment and Development (UNCED 1992)
1998	*Bildung für nachhaltige Entwicklung* is part of a German governmental programme (BLK 1998)
2002	The Decade of Education for Sustainable Development (DESD) is proclaimed (UNESCO 2005)
2004	German Parliament decides to support the DESD (FU Berlin 2004, Deutscher Bundestag 2004)
2012	More than 1,500 German UN Decade Projects have been awarded (DUK 2012)

Table 2-1 ESD timeline

But few international references can be found in terms of sustainability and interpretation in protected areas (Table 2-2).

1975	Tilden underlines the need to accept limitations in terms of the natural environment and the social scheme rather than to continue with "buying physical comforts on a credit card" (Tilden 1975:1).
2003	The International Ranger Federation (IRF) extends Tilden's six principles of interpretation (Appendix 2-1) by five more, which are particularly related to sustainable development (IRF 2003 - Appendix 2-6).
2012	The "Green Parks Plan - Advancing Our Mission through Sustainable Operations" is adopted by the US National Park Service as mandatory for more than 400 protected areas (USNPS 2012).

Table 2-2 International references in terms of interpretation and sustainability in protected areas

In Germany, ESD was discussed before official decisions had been made. A DESD office at the German UNESCO Commission, a national committee and a round table were established in 2004 (DUK 2007). The current phase of the DESD is characterised by implementation and transfer (Michelsen 2006). Most key activities are focused on formal education (Rode, Wendler, and Michelsen 2011), following the competence approach (Weinert 2001) to enable individuals to face even more complex demands by providing knowledge and skills, values and attitudes (Rauch, Streissler, and Steiner 2008).

At an early stage, the idea of *Gestaltungskompetenz* (shaping competence) came up (de Haan and Harenberg 1999, Appendix 2-7). *Gestaltungskompetenz* is understood as an "approach to meeting the requirements identified by the PISA studies" (Michelsen 2006:25➲10) showing "clear parallels with the OECD competencies" (Table 2-3, de Haan 2007:15, Rychen and Salganik 2001).

Classical competence terms	**Competence categories in line with OECD (2005)**	**Part-competences of *Gestaltungskompetenz****
Subject and Methodological Competence	**Interactive use of media and methods** • Ability to use language, symbols and text interactively • Ability to use knowledge and information interactively • Ability to use technologies interactively	T.1 Gather knowledge with an openness to the world and integrating new perspectives T.2 Think and act in a forward-looking manner T.3 Acquire knowledge and act in an interdisciplinary manner
Social Competence	**Interacting in socially heterogenous groups** • Ability to maintain good and durable relationships with others • Ability to cooperate • Ability to overcome and resolve problems	G.1 Ability to plan and act together with others G.2 Ability to participate in decision-making processes G.3 Ability to motivate others to get active
Personal Competence	**Acting autonomously** • Ability to act within the wider context • Ability to form and implement a life plan and personal projects • Awareness of rights, interests, boundaries and requirements	E.1 Ability to reflect upon one's own principles and those of others E.2 Ability to plan and act autonomously E.3 Ability to show empathy and solidarity with the disadvantaged E.4 Ability to motivate oneself to get active

* T = Tools, G = *Gruppen* (Groups), E = *Eigenständiges Handeln* (Acting autonomously)

Table 2-3 Comparison between OECD competences and *Gestaltungskompetenz* (de Haan 2007:16)

Although formal ESD became highly focused on *Gestaltungskompetenz* (Sleurs 2008), controversial debates emerged about the role of the economy and whether ESD should be a normative or model approach.

2.2.1 Controversy about the Role of the Economy

Because of its relation to PISA (OECD 2012c), there is criticism that "the competence-oriented approach prescribes unintended or intended paradigms of the neo-liberal market and the Western community systems" (Sleurs 2008:37, Paech 2006, Münch 2009:30➲14. Liessmann 2006:86➲15, Zeuner *et al.* 2005:12➲16). A finding that IUCN has moved towards socio-economic concerns (Figure 2-4) was confirmed for Germany (Leng 2009).

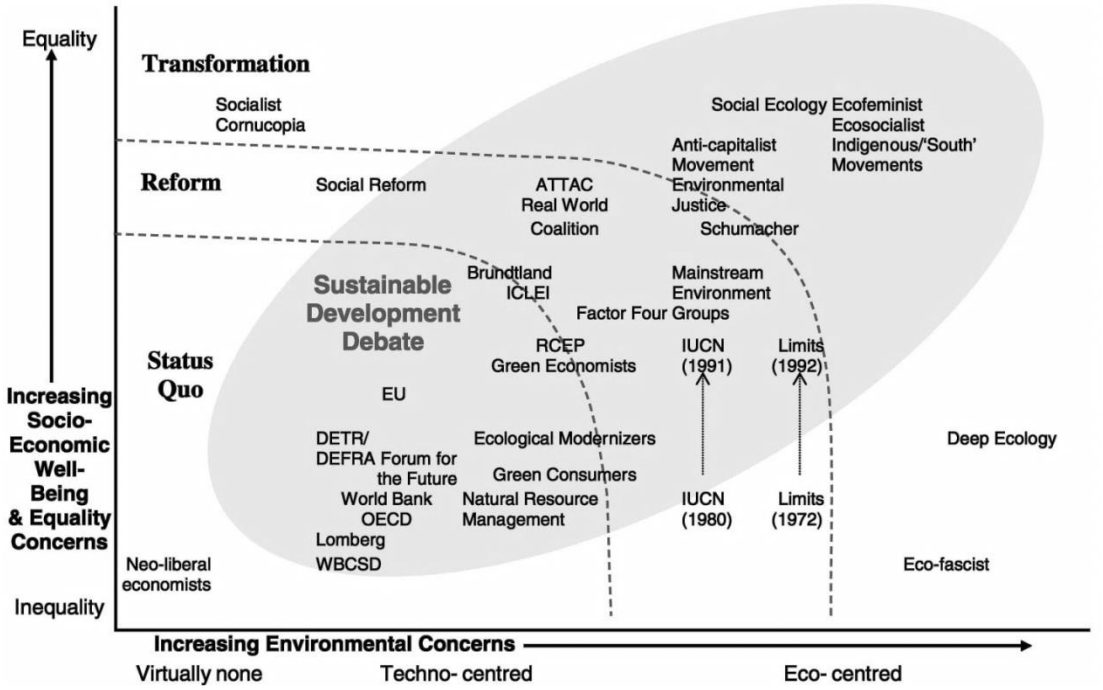

Figure 2-4 Mapping of views on sustainable development (Hopwood, Mellor, and O'Brien 2005:41)

There are many sustainability models (Keiner 2001, Mann 2011) and the main difference between "weak and strong sustainability" (Neumayer 2003:7) is whether all dimensions are seen as equal (ring or pillar model), or whether ecological or social

concerns should limit economic growth (“nested model” - Giddings, Hopwood, and O’Brien 2002:192) (Figure 2-5).

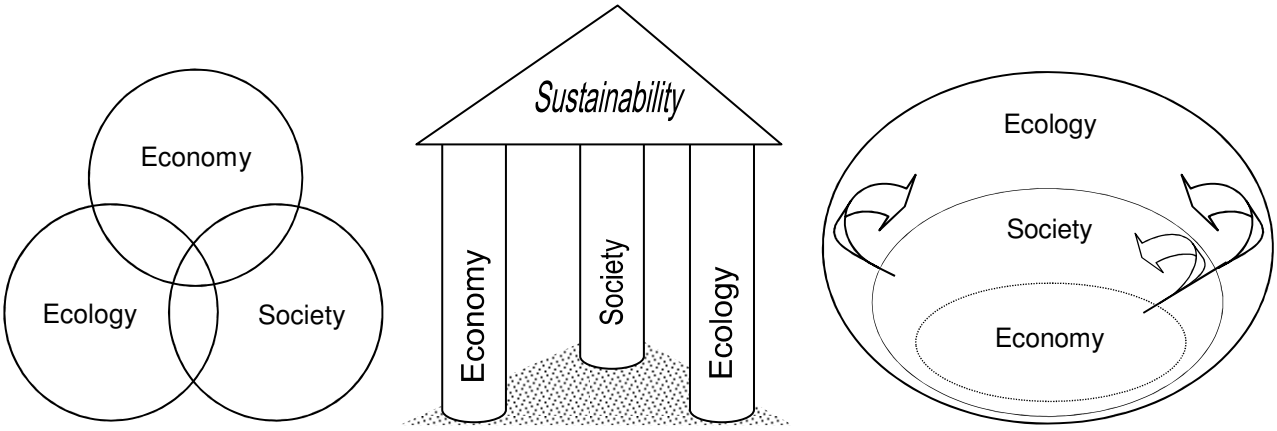

Figure 2-5 Overlapping ring, equal pillar, or nested but limited core?
Three conceptions about the role of economy in sustainable development (own illustrations)

Although the pillar model seems not to consider the “equality of three sibling goals, but those of the whole (nature) with a part of the whole (society) and on top of that with a part of this part (economy)” (Meyer-Abich 2001, 303➲11), officials often support equalising models and underline that “an implementation of this idea means to make the model of ecological and social market economy to a basic framework of sustainable development all around the world” (BMF 2012➲12). Sometimes interpreters also see “economics, ecology and equity […] without preference to one of the indicators over the others” (Brochu and Merriman 2011:10). On this basis, in OECD countries, which are neither countries with Muslim majorities, except Turkey, nor African countries (OECD 2012a), steady growth is set by law (OECD 2012b, BMJ 2012a), and in Germany sustainability is seen as “a major competitive advantage” (Deutsche Bundesregierung 2012:14➲13).

ParcInterp, however, uses the nested model (Ludwig 2013), putting forward the idea of key phenomena of sustainable development (Figure 2-6, Appendix 2-23, Ludwig

2011a/b), to anchor sustainability in appropriate sites or everyday objects, addressing people by “what is shared in common and upon which life depends” (Bowers 2007:48).

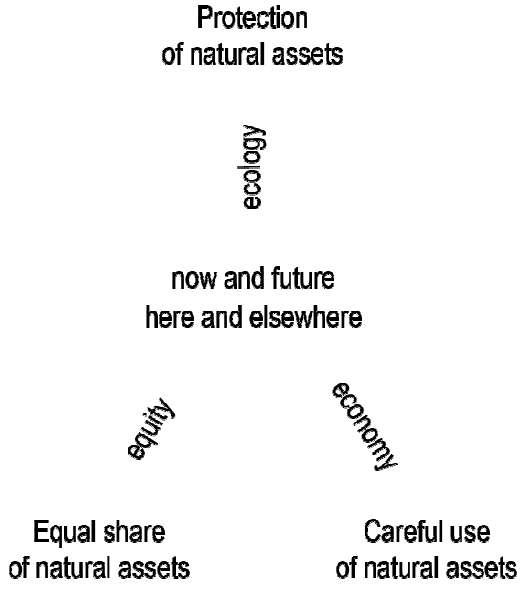

Figure 2-6 Features of an ESD key phenomenon (Ludwig 2012b:9)

ESD key phenomena can also support the idea of “great transformation” (WBGU 2011) by illustrating worldwide syndromes of non-sustainable development on site (WBGU 1996, Schellnhuber *et al.* 1997, Appendix 2-8).

Molitor (2012) found that the selection of appropriate ESD key phenomena is necessary to align interpretation with ESD.

2.2.2 Controversy about ESD as Normative Approach

According to Stoltenberg, Adomßent, and Rieckmann (2004), Ott and Voget (2007), and Molitor (2012), ESD is a generally-accepted, value-based approach. Occasionally it is suggested that those active in promoting ESD become agents for change (Appendix 2-9, Stoltenberg, Benoist, and Kosler 2013). But *Gestaltungskompetenz* is meant to be “less normative” (BLK 2012:6) and intends just “to enable people to behave in a moral way (not

to oblige them to do so, because this would contradict the overwhelming ban)" (de Haan 2009:14➲17). The "overwhelming ban" is a common principle of political education in Germany (Schiele 1996). Some authors state that this does not give a clear orientation for sustainable behaviour (Bilharz and Gräsel 2006), resulting in "moral overburdening of the individual" (Jung 2007:87➲18). For Leng (2009:29), *Naturethik* (nature ethics) are essential for ESD, and rangers asked about ESD competences mentioned aspects like "becoming aware of being part of nature" or "learning how to enjoy life with fewer material goods" (Ludwig 2006:3➲19). There is criticism that *Gestaltungskompetenz* neglects *Naturkompetenz* (nature competence - Jung 2009:133) and ESD therefore becomes less acceptable particularly among stakeholders that have worked with (economic) sustainability for centuries (Haus des Waldes 2012). In German forestry, the term *nachhaltende Nutzung* (sustainable use) was introduced in 1713 (Grober 2010:114-116) and sustainability is often traced back to this (Bader 2008). But virtues like austerity, care and preservation are regarded as outdated by *Gestaltungskompetenz* which is aimed to follow a *Modernisierungsszenario* (scenario of modernisation) (BLK 2012:6) (Table 2-4).

Traditional green orientation	**New cultural orientation**
Threat scenarios suggest: • Nature protection, nature awareness • Nutrition close to nature • Reduction of consumption (waste, water, energy)	*Modernisation scenarios aim at:* • Global justice • Economies according to criteria of efficiency and consistency • Environmentally sensitive life styles and forms
Solution: Modification of Behaviour • Sensitization • Cultivation, care, preservation, protection • Coping with fear • Protest	**Solution: Shaping Competence** • Competencies of foresight • Strategies of sustainability • Participation and solidarity
Not much systematic task selection	*Task selection based on complex empirical findings*

Table 2-4 From environmental education to education for sustainable development (de Haan/Harenberg 1999:18)

Leng (2009) suggests that protected area staff often build upon this traditional green orientation as one reason why she noted "a general willingness to integrate ESD increasingly

into the educational work of the protected areas, respectively to align this work with ESD [...]. According to their own interpretation, most protected areas contribute with their educational work to sustainable development and indicate their educational work already as ESD" (Leng 2009:183➲20).

This situation in 2005, when Leng carried out her survey (Leng 2009:110), had apparently changed by 2010. At least in terms of the ParcInterp testing areas, Molitor (2012:159➲21) stated that "the rangers experienced ESD not as vivid and inspiring, but as 'dry'. They perceived pedagogical terms as foreign words and concepts as incomprehensible, complicated and abstract. It was found that participants from all protected areas shared this perception". This might result from lack of higher education (Molitor 2012), but it could be that ESD requirements developed in universities for formal learning do not correlate with beliefs and experiences of 'ordinary people', which could be assumed through the results of Ludwig (2006). That would be a warning signal, if the effectiveness of ESD means that it should pervade all social environments (de Haan 1999).

Recently, quality criteria for training of ESD trainers, especially in non-formal settings, were developed (Arbeitsgruppe Außerschulische Bildung 2012). Deviating from the concept of *Gestaltungskompetenz*, the first two out of ten criteria explicitly focus more on the importance of natural resources and global justice (Appendix 2-11).

Because this debate is not limited to Germany, UNESCO suggested overcoming this issue on an international level by reassembling the diverging approaches under one umbrella:

> "Recent publications and educational discourse tend to show a shift from education to learning, emphasizing the need for continuous engagement in sustainability within formal, non-formal and informal settings, on the one hand, and the need for capacity-

building, participation and self-determination for sustainable development, on the other. Synergies need to be created between ESD and other SD-related educations, which should mutually support rather than compete with each other. ESD provides a framework for facilitating such synergies and constructive interactions" (UNESCO 2012b).

2.2.3 Interpretive Impulses for ESD from Protected Areas

Europarc Germany postulates an *Allianz für Nachhaltigkeit* (alliance for sustainability – Europarc Germany 2004:3), for understanding the "improvement of educational services as a contribution to the UN Decade Education for Sustainable Development" (Europarc Deutschland 2008b:8➲22). Biosphere reserves are explicitly mentioned as "learning sites for the UN Decade on Education for Sustainable Development" by UNESCO (2012c). Marwege (2012:42➲23) points out "very good conditions [...] to play the coordinating role of a 'learning landscape' for sustainable development", which is supported by Leng (2009). According to the classification of the European Commission (Colardyn and Bjornavold 2004 - see Appendix 2-10, Cedefop 2011), most educational activities in parks are subject to non-formal learning by "planned and explicit approaches to learning […] not recognised within the formal education and training system" (Bjornavold 2000:1).

The interpretive aim "to take everyone's heritage, collectively, into a shared guardianship" (Glen 2012:5) already contributes to ESD (Arbeitsgruppe Außerschulische Bildung 2012:7, 22). Highlighting "the need to develop an empathy and ethic of care towards the environment", Christie (2012:4) states: "This is a crucial point as attitude and ultimately behaviour change stems from a connection to a place". With the "benefits of establishing sense of place" (Brochu and Merriman 2011:10), interpreters might enrich the discussion. Molitor (2011:2➲24) found that "many of the didactic principles of education for sustainable development [are] already included, […] particularly in the personal services of interpretation".

According to Tilden, participation is “another of those words to which interpretive activities have given a special significance” (Tilden 1957:73). Although this statement does not entirely cover what is understood by participation in the context of ESD, it points the way. To understand the interpreter as mediator or facilitator within the interpretive triangle (Figure 2-2), enabling participants to build on their own experience, could give interpretation preference over other approaches in the sustainability debate – right up to the original experience of John Muir of getting closer “to the heart of the world” (Wolfe 1978:144).

2.3. Protected Areas

In Germany, three categories of protected areas have their own administrations (Europarc Deutschland 2005, Table 2-5). Although federal law overrides the law of the *Bundesländer* (BMJ 2012c:10 Art. 31), national legislation determines only how the categories are characterised (BMJ 2012b:22 §24), not how they are managed.

National Park	Biosphere Reserve	Nature Park
Tends to be IUCN category II area (IUCN and WCMC 1994), taken out of long-term economic use for ecological succession	Tends to follow the guidelines of the MAB programme (UNESCO 1996) and should serve as example of sustainable economy	Tends to be IUCN category V area (IUCN and WCMC 1994), pursue a similar aim as biosphere reserves but focus more on tourism
Spacious, characteristic, substantially unfragmented	Spacious, with special types of landscape	Spacious, suitable for recreation purposes
Protected like and mainly consisting of nature reserves	Mainly consisting of nature reserves, but also landscape reserves	Mainly consisting of landscape reserves, some nature reserves
Uninterrupted sequence of natural processes and dynamics	Traditional use with characteristic diversity	Multiple use aspiring sustainable regional development
Research and education	Research and ESD	-

Table 2-5 Categories of extensive protected areas according to German law (BMJ 2012b:22-23)

There is no national administration – the *Bundesländer* manage even the national parks (BMJ 2012b:5 §3). But to facilitate cooperation, park administrations are members of two NGOs (Table 2-6).

Non-governmental organisations	Description
Europarc Germany	Founded in 1973 as the Federation of the European Nature and National Parks (today: Europarc Federation). Since 1991, Europarc Germany has been one section of this organisation (Europarc Deutschland 2012a). Members are the administrations of the 14 national parks, 15 biosphere reserves and 15 out of the 104 nature parks (Europarc Deutschland 2012b). They all aim to cooperate under the common brand *Nationale Naturlandschaften* (National Natural Landscapes - Europarc Deutschland 2008b).
Verband Deutscher Naturparke (VDN) (Association of German Nature Parks)	Founded in 1963 (VDN 2012a), VDN unites all 104 nature parks, comprising about 25% of Germany's land area (VDN 2012b), is focused on recreation and aims to support regional development (BMJ 2012b:23 §27). In former East Germany, they sometimes have their own staff while most former West German nature parks are administered by forestry with a varying budget composed of contributions from local and regional authorities (Europarc Deutschland 2008b).

Table 2-6 Non-governmental organisations coordinating German protected areas

When ParcInterp started, it was assumed by the partner organisations that it would be important to provide separate training courses related to management categories, but this was found not to be necessary (Leng 2009, Ludwig 2012c).

2.3.1 Education within Protected Areas

Following IUCN and UNESCO regulations (and different from nature parks), national parks and biosphere reserves have an educational mission. But according to the administrative structure, there are no nationwide regulations that guide how the education services should be shaped (Europarc Deutschland 2004). From an ESD perspective, it is important that administrations are "claiming themselves to become learning institutions" (Leng 2009:251➲25). Respect for the work of others is an important indicator for necessary improvement (Table 2-7).

Strengths	Weaknesses
Many participants appreciate education in protected areas for its high practical relevance which is reinforced by having the actual site outside the door. Compared to those in formal settings, the methodology and the topics are also perceived as diverse and creative – even includ-	Weaknesses in the educational work of the protected areas are primarily seen in two concerns. On the one hand, it is in the lack of staff in quality (temporary employees) and quantity, especially during seasons. Deficiencies are seen much more in that area than on others, such as general financial resources or facilities.

ing terms like edutainment and other forms of experiential learning that are mentioned as strengths. Some participants state that the continuous work with local children of different age groups (and as they grow up) is a strength. But this statement also refers to the specific weaknesses of sometimes discontinuous work and frequent personnel changes. It could be summarized that the continuous work is much appreciated where conditions, such as staffing etc. make it possible.	The second area of concern is the lack of service. Due to limited time and personnel resources, their own programmes and services are rated as not very varied, subject-specific and repetitive. For the implementation of new concepts, time seems to be missing. This is also seen in the context of clear existing opportunities for varied learning, documented by the analysis of strengths. Another significant issue is the lack of respect for staff's own work that is evident not only among outsiders but also within protected area management. The cooperation with schools has to be improved, and the effect of educational services remains uncertain and requires systematic evaluation.

Table 2-7 Strengths and weaknesses of education in German protected areas (Europarc Deutschland 2004:24-26 - original German text: Appendix 2-12)

Europarc Germany and VDN developed recommendations and introduced different approaches – such as the Junior Ranger Web (Wildefeld and Buchmann 2012) or Nature Park Explorer Vests (VDN 2012c), and services are supported by institutions on site. However, with limited resources, administrations are often more concerned with including these others' programmes that fit within their own regulations rather than developing their own, because visitor services sometimes have to be managed by a single member of staff (Europarc Deutschland 2008b).

In 2008, the situation in German protected areas was analysed and criteria for managing national parks (Europarc Deutschland 2008a) and nature parks (VDN 2010) were established. One result was that the most lacking were communication, use of computers and environmental education / public relations, and it was stated that "in public relations and environmental education in protected areas, rangers are playing a key role" (Europarc Deutschland 2008b:58➲26). In addition to the ranger service, and as part of initiatives within the regional tourist industry, since 2005 freelance guides (ZNL) have become increasingly important (BANU 2012).

2.3.2 The Ranger Service

In 1989, the first ranger unit was established in one German national park (Erhard 2010). Today, the administrations of protected areas and other units employ more than 450 permanent

rangers whose work covers a number of roles. Information and education are part of the duties of more than 70% of these rangers (Fischer 2007).

Most rangers followed an apprenticeship as woodcutters, as a result of which about 90% are men. In 1998, after the number of national parks had increased significantly, the Federal Ministry of Education and Research (BMBF) launched vocational training for the newly established profession *Geprüfte/r Natur- und Landschaftspfleger/in GNL* (Approved Nature and Landscape Keeper) and provided 640 hours of lessons (BBN 1999). However, because this training was also aligned to farmers, and that requirements (BMBF 1998) were vague due to the federal structure, its success was limited. The head of the first ranger unit still argues that “there is no consistent profile of the ranger profession in Germany” (Erhard 2010:51➲27).

External observers have also identified the general issue that the educational system in Germany is “only partly able to extend its functions to continuing vocational training and to the more diverse training requirements of adults” (Bjornavold 2000:4). Concerning rangers, BIBB (2004) suggests that this may not change, because there is no expected increase in the demand.

While the German Ranger Association criticises a lack of specific data (Brockmann 2012), there is currently no nationwide initiative to raise and prove the quality of the work of rangers beside ParcInterp (Wagner 2011).

2.4 ParcInterp

ParcInterp aims to improve the quality of interpretation in German protected areas, clearly connecting it to ESD. The initiative was adopted in 2008 and recognised by the German

UNESCO Commission for its integration of ESD into interpretation in 2010 (Bildungswerk interpretation 2012). ParcInterp was the last step in a longer process (Table 2-8).

1995	US National Park Service Interpretive Development Program, components tested in Germany
2000	First German interpretive trainer certified by the National Association for Interpretation (USA)
2003	TOPAS pilot course 'Basic Interpretive Skills' (German-Italian project) tested in Germany
2004	Course modified and adopted to German protected areas by BfN / INA and Europarc Germany
2005	Criteria become part of ZNL, 48 participants certified as interpreters by Europarc Germany until 2008
2008	Three national associations decide to integrate ESD into interpretation, start of ParcInterp
2009	Grants approved, approach presented at the NAI International Conference
2010	Three pilot courses with assignments and exams, ParcInterp awarded by UNESCO
2011	33 participants certified - standards confirmed, presentations at IE and Europarc Conferences
2012	First interpretive trainers certified in Germany, trainer manual and quality standards published

Table 2-8 ParcInterp timeline
compiled from: Forkel-Schubert and Zoepp (2010), Ludwig (2012a and 2012c)

ParcInterp is supervised by:

- Europarc Germany (www.europarc-deutschland.de),
  an organisation of 44 national parks, biosphere reserves and nature parks;
- German Ranger Association (www.bundesverband-naturwacht.de),
  an organisation of professional rangers (150 members), mainly in protected areas;
- German Association for Natural and Environmental Education (www.umweltbildung.de),
  an organisation of about 350 non-formal environmental education centres.

ParcInterp is monitored by the Eberswalde University for Sustainable Development (HNE). Research was done on ParcInterp qualities (Hermes 2010) and on the role of ESD (Molitor 2011). While the justification of the four qualities (Table 2-9) was based on a literature review, mainly on articles published in the *Journal of Interpretation Research* (according to Hermes 2010 e.g.: Morgan *et al.* 1997, Beckmann 1999, Wells 2000, Tarlton and Ward 2006), the results on the

integration of ESD into ParcInterp training were based on Molitor's own findings (Figure 2-7) and are considered in this study (Molitor as interviewee in 4.2.1, findings in 2.2.1 and 6.2.4).

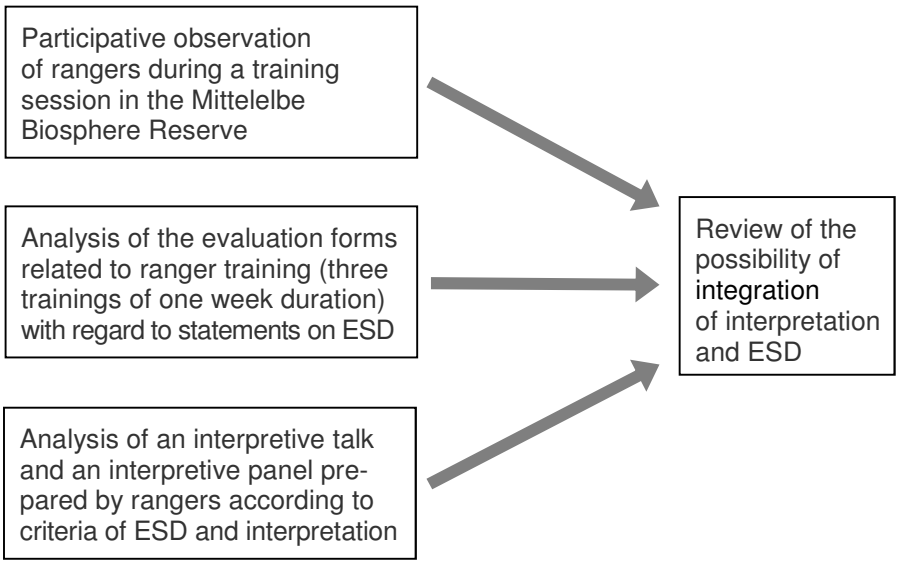

Figure 2-7 Methodological approach for checking opportunities for connecting interpretation and education for sustainable development (Molitor 2012:157, orig. Appendix 2-24)

Bildungswerk interpretation was in charge for development and management of ParcInterp when the development of the programme was financially supported by *Deutsche Bundesstiftung Umwelt* from 2009-2011 (Ludwig 2012c).

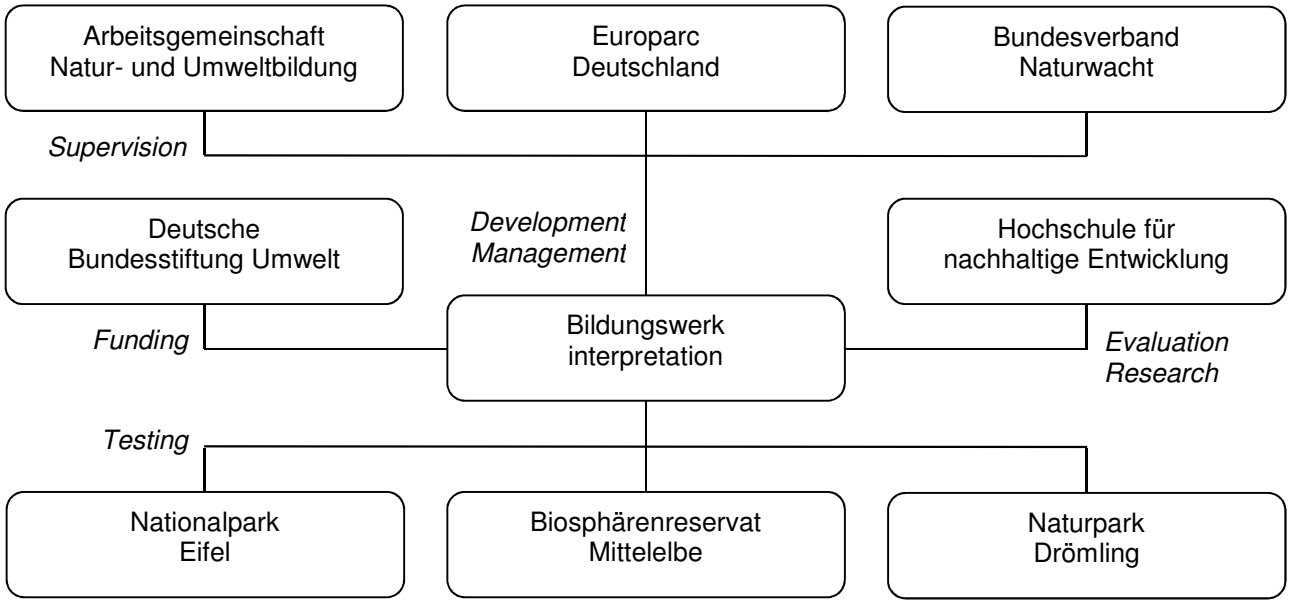

Figure 2-8 ParcInterp organisation chart during the testing phase (2009-2011)

One of the first tasks of ParcInterp was to set up standards "that:

- emphasise the benefits to non-formal education through the involvement of protected areas;
- deliver common quality measures for protected area staff;
- offer specific approaches for the development of the ranger profession;
- strengthen connections to contemporary concepts such as universal access or ESD;
- are applicable to other visitor-oriented heritage attractions […];
- provide proof of quality in comparison to other national or European certificates" (Ludwig 2012b:8).

To achieve this, ParcInterp consists of a system of defined qualities, standards, criteria and competences (Table 2-9, Appendices 2-14 until 2-22).

Term	Explanation
Qualities	There are four qualities. According to ParcInterp, heritage interpretation: • is committed to the universal relevance and protection of natural and cultural heritage; • relates to visitors' immediate experience of sites (or objects / events at these sites); • integrates visitors in a participatory way, taking their own 'world' into account; • focuses on inspiring themes that unite the three aspects mentioned above.
Standards	There are 20 standards covering different topics. They are set as objectives and therefore more specific and measurable than the four qualities. Standards can be related to the protected areas as well as to their interpreters.
Criteria	There are 80 criteria - each of the 20 standards is supported by four. The aim of the criteria is to break down the standards in order to make them manageable and assessable.
Competences	In terms of training of interpreters, there are competences defined for each standard. Competences are combinations of knowledge, skills and behaviour. For each of the 20 standards there are three competence levels that can be achieved: basic knowledge, working knowledge and professional knowledge.

Table 2-9 ParcInterp terms and their descriptions (following Ludwig 2012b)

ParcInterp competence levels were originally inspired by the Interpretive Development Program of the NPS (USNPS 1996). The approach was confirmed by Kopylova and Danilina 2011 (Figure 2-9).

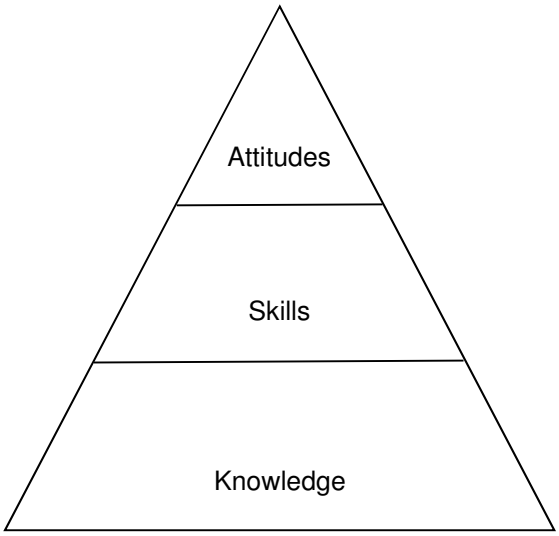

Figure 2-9 Pyramid of training needs (according to Kopylova and Danilina 2011:5)

For 40% of the standards, professional knowledge can be achieved within the basic course. For the remaining 60%, participants gain basic or working knowledge which is then completed within the professional course (Appendices 2-17 to 2-20). In the progression from the basic course to the professional course, the focus shifts from group training to individual on-the-job training (Appendix 2-14).

On the question of how training can be most effective, Hockings *et al.* (2005) carried out an international survey that verified preferences for local on-site short courses and on-the-job training – and demonstrated that elected officials and field staff gave more value to interpretation than executive and middle management (Kopylova and Danilina 2011:18).

Kopylova and Danilina (2011:21) argue: “Training of trainers is also highly recommended in this field: it is always easier to create a local team of trainers from experienced rangers who can then teach the newcomers”. Leng (2009:236➲28) confirms that “the person that is responsible for education is of fundamental relevance for the success of the educational work in protected areas”. To be successful in training these people, ParcInterp did not

focus only on the learning content, but also developed a set of didactic principles for its delivery (Appendix 2-5) and requirements for trainers (Appendix 2-25).

In the first stage, ParcInterp focused exclusively on training. Since 2003, several training cycles as recommended by IUCN (Kopylova and Danilina 2011) have been completed and evaluated (TOPAS 2003, BfN 2004, Molitor 2011). Three 120-hour basic courses, each including three parts with two assignments, a written and a practical test, were delivered. 33 participants (29 male, 4 female) and two trainers (1 male, 1 female) were certified and a trainer manual was created and published (Ludwig 2012c).

Relevant ParcInterp standards were incorporated into the national ZNL examination regulations (BANU 2012) and explained by a course manual on interpretive guiding (Ludwig 2013). ParcInterp supported the project *Schulwandern* (school hiking) initiated by the German Hiking Association (Deutscher Wanderverband 2012) and the EU Comenius Real World Learning Network project (Field Studies Council 2012).

Prompted by the experiences of ParcInterp, a project was set up to develop quality criteria for the training of those communicating ESD principles in non-formal settings which were published by UNESCO (Arbeitsgruppe Außerschulische Bildung 2012, Appendix 2-11).

The three partner organisations have each committed to continue ParcInterp (Appendix 2-4) and to implement the training standards through a nationwide system, consisting of basic and professional certification courses specifically for rangers (Ludwig 2012c).

3. Methodology

This chapter explains the methodology used in order to investigate the feasibility of implementing ParcInterp standards in German protected areas.

To develop the key research questions, a multi-strategy research system (Layder 1993) was devised based on the results of the literature review (⇨2) and consisting of two phases:

1. a more inductive, qualitative analysis (in-depth interviews) (⇨4);
2. a more deductive, quantitative analysis (questionnaire-based survey) (⇨5).

To cross-check the findings, the research methods of both approaches were used in a complementary triangulation process where “the weaknesses of one approach are complemented by the strengths of another” (Veal 2006:107).

While some authors claim that “survey research is generally weak on validity and strong on reliability” (Babbie 2010:288), in-depth interviews provide for questionning variables more intensely from different perspectives. In addition, while questionnaire surveys reduce interviewer bias associated with in-depth interviews and the challenge of maintaining objectivity, in-depth interviews reduce the bias that result from predetermined categories in questionnaire surveys.

Despite the cross-linking character of this study, there were clearly separated periods during which the individual methods were used (Figure 3-1).

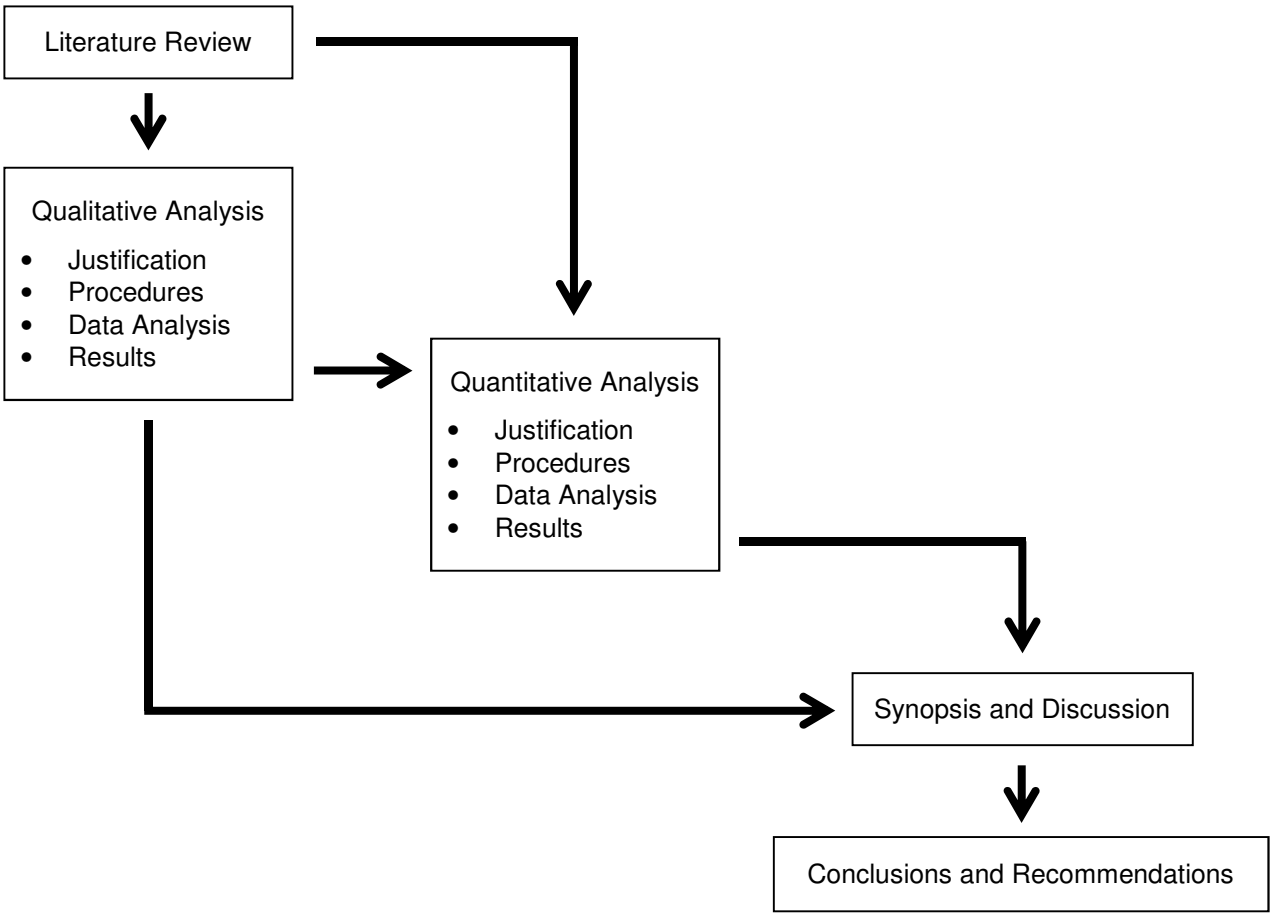

Figure 3-1 Methodological design

Since in-depth interviews were mainly used as a source of hypothesis resulting from different perspectives, and subsequently tested at a larger scale through a questionnaire survey:

- Chapter 4 combines methodology and data analysis of the qualitative research;
- Chapter 5 combines methodology and data analysis of the quantitative research.

Parts of the discussion (Chapter 6) were included in these chapters where they were relevant either to the qualitative or to the quantitative analysis.

Although both research approaches and the literature review were focused on the same key research questions, these different tools were of varying importance in answering the individual questions (Table 3-1).

Research questions	Literature review	In-depth interview	Question-naire-based survey
1. What is the demand for training and certification in heritage interpretation and ESD in German protected areas, and how can it be addressed?	○	⊙	◎
2. What are the issues relating to uptake of training and standards in interpretation and ESD in German protected areas?	○	◎	⊙
3. What training and programmes for interpretation and non-formal ESD are currently delivered in Germany, and how does ParcInterp relate to these in terms of standards and delivery of training?	◎	○	○
4. To what extent do the ParcInterp certificate and standards address the demands from German protected areas?	○	⊙	◎
5. Is the ParcInterp system suitable for effective interpretation management and practice in German protected areas?			
Title The feasibility of implementing national training standards for German protected areas: An analysis of ParcInterp standards as a means for effective change			

○ less important ⊙ important ◎ very important

Table 3-1 Importance of different tools in answering the key research questions

The research process in itself, including in-depth interviews and questionnaire survey, was focused on research questions 1 to 4, while the discussion of the results on these questions allowed question 5 to be answered with regard to the key task which was laid down in the title of the work.

All results of Chapter 2 (literature review), 4 (qualitative analysis) and 5 (quantitative analysis) are connected and discussed in Chapter 6.

4. Qualitative Analysis

4.1 Methodology

4.1.1 Justification

Qualitative analysis is considered as “an inductive view of the relationship between theory and research, whereby the former is generated out of the latter” (Bryman 2001:264). It is not sequential but recursive in a way that theory is “derived from data, systematically gathered and analyzed through the research process” (Strauss and Corbin 1998:12) in a “repetitive interplay” (Bryman 2001:389) which allows deeper understanding. Babbie (2010:329) states that, “compared with surveys and experiments, field research measurements generally have more validity but less reliability”.

In terms of this study, one critical aim of the qualitative analysis was to determine what the subsequent quantitative enquiry should be focused on, and who should be involved. Following a grounded-theory approach (Glaser and Strauss 1967), theories are grounded in empirical observations of patterns or contradictions through the examination of data. The process is therefore characterised through the development of a system of concepts created from codes and categorised to organise data in a valid way as reliably as possible.

Although the researcher needs to be “familiar with the data, the subjects and the cultural context of the research” (Veal 2006:197), compared to quantitative research, the research advantages are that in qualitative research it is not only the researcher who “determines the whole framework within which the discourse of the research is conducted” (Veal 2006:193), and that hypothesis is derived in a rather transparent way. On the other hand, qualitative data analysis “often requires the researcher to interpret the meaning of

responses, opening the possibility of misunderstanding and researcher bias" (Babbie 2010:256).

An appropriate method to gather data in terms of grounded theory are open-ended in-depth interviews that "tend to be used in three situations.

1. The subjects of the research may be relatively few in number […].
2. The information likely to be obtained from each subject is expected to vary considerably, and in complex ways […].
3. A topic is to be explored as a preliminary stage in planning a larger study, possibly a quantitative study, such as a questionnaire-based survey" (Veal 2006:198).

These points describe the situation of this study, making in-depth interviews the most appropriate method. In contrast to "standardized interviews" (Oppenheim 2000:66), in-depth interviews seek to "probe more deeply than is possible with a questionnaire-based interview", and they therefore are "typically taking at least half an hour" (Veal 2006:197). Inspiring interaction, the interviewer "encourages respondents to talk, asks supplementary questions and asks respondents to explain their answers" (Veal 2006:197).

As a semi-structured interview, the in-depth interview needs an interview guide to allow a certain degree of comparability and to make sure that no important topic is omitted. Although questions need to be elaborated in advance, the guide should be used more as a checklist during the interview, to ensure flexibility and to avoid influencing the interviewee's responses. For that reason, the interviewer should use non-leading questions and methods of active listening like repeating, paraphrasing or reflecting answers (Rogers 1951, Gordon 1970).

A particular type of semi-structured interview is the expert interview (Gläser and Laudel 2009) which is focused on factual statements on subjects (Flick 1998), where the respondent is a “representative of a group” (Mayer 2009:38➲29) providing expert knowledge. In terms of this study, two areas of knowledge were critical for the selection of experts:

1. Experts should have sufficient insight into the background of the ParcInterp system;
2. Major areas of study – heritage interpretation and ESD, protected areas and rangers – should be represented.

In this respect, interview questions explored the interviewees’ general expertise regarding ParcInterp, but also allowed in-depth conversations in the areas in which the selected experts were specialists.

4.1.2 Developing the Interview Guide

An interview guide can consist of keywords or phrased questions which must not be asked in a preformulated way and whose order can be changed, according to the course of the interview (Friebertshäuser and Prengel 1997). The guide should not be too extensive, because this would result in ticking off questions without any possibility of exploring the thoughts of the respondents (Mayer 2009). Interview guides need to have a limited number of main topics to allow the interviewer and the interviewees to orient themselves in terms of time and content as well as a conversational flow (Rubin 1995).

Questions were structured into three sections:

- Implementation;
- Training;
- Perspectives.

Content overlap was intended to remain flexible and to enable consideration of issues from different perspectives. The initial guide included 14 questions. Because an important topic was raised during the pilot interview, the guide was increased to 15 questions (Appendix 4-1 and 4-2) by adding question number 2. For that reason this question was not mentioned in the first interview. (This was found to be acceptable, because the question was related to the situation in the three ParcInterp partner organisations, while the first interviewee was representing the university involved in ParcInterp.)

4.1.3 Procedures

Expert interviews require a selection of interviewees that "each have different information because of their specific position in the process to be reconstructed" (Gläser and Laudel 2009:117).

There are four major areas represented in ParcInterp that provide for looking at the programme from four different perspectives (Figure 4-1).

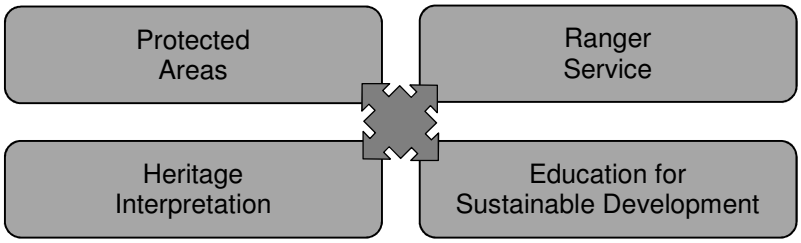

Figure 4-1 Considering four different perspectives in ParcInterp

To cover all areas adequately, four experts – two female and two male – were selected who also played a role in the supervision of ParcInterp until 2012 (Table 4-1).

Expert / Interview Data	Expertise
Heike Molitor 28.01.2013, 11:00 duration: 33:59 min	Expert in heritage interpretation Vice Dean of the HNE Faculty of Landscape Management representing monitoring and research at ParcInterp

Annette Dieckmann 29.01.2013, 11:00 duration: 28:10 min	Expert in education for sustainable development President of ANU, member of the national DESD committee representing ANU at ParcInterp
Frank Grütz 30.01.2013, 11:00 duration: 42:22 min	Expert in the ranger service President of the German Ranger Association representing the German Ranger Association at ParcInterp
Guido Puhlmann 31.01.2013, 11:00 duration: 31:19 min	Expert in protected areas President of Europarc Germany, park manager of a biosphere reserve representing Europarc Germany at ParcInterp

Table 4-1 Experts for in-depth interviews

Thus the selection of interviewees was done in advance and did not result from the first interviews because the group of experts was limited and because the selected experts could be “gatekeepers” (Merkens 2000:288) of the following quantitative study.

Although all subject areas were represented, and although the experts were, in three out of four cases, the elected representatives of the associations dedicated to these areas, their statements are not necessarily representative of the organisations. Furthermore it was not intended to conduct the research process as “cyclical or spiral” (Blaxter, Hughes, and Tight 2004) or to achieve theoretical saturation (Strauss and Corbin 1998). But since a quantitative study was to follow, it was felt to be adequate in the necessary balance of “economy and completeness” (Mayer 2009:40), if each area was represented just once.

The four experts worked all over Germany and interviews were conducted by phone. Because the different areas of expertise and the senior positions of all interviewees enabled their identification, interviewees were asked and agreed that data should not be anonymised.

The interview guide was developed and pre-tested three weeks before the interviews took place (Supplement 4-1). For the pre-test, a certified interpretive trainer was selected; this

person was head of an ESD working group of one *Bundesland*, was involved in the testing phase of ParcInterp, and had attended most of the ParcInterp meetings. The aim of the pre-test was to examine length, intelligibility and the possibility to create opportunities for deeper conversation.

All experts were issued the pre-tested interview guide two weeks in advance and were asked to:

- give their consent to the interview;
- confirm their awareness that the interview would be recorded;
- confirm their understanding that the data would not be used anonymously;
- suggest an interview date within the last week of January 2013.

All candidates responded to the request for an interview date, and interviews were conducted from the interviewees' offices by phone from 28 to 31 January 2013 at 11am.

All interviews were conducted in German, the interviewees' mother language, and each opened by asking again for confirmation of the procedure – namely tape-recording and keeping data not anonymised. At the end of the interviews, interviewees were asked for concerns that might not have been mentioned.

Complete verbatim transcripts were produced immediately after each interview. One interviewee wanted to approve the transcript; this was issued on the same day as the interview took place and was approved two days later on 31 January 2013.

After transcription, all interviews were translated into English (Supplement 4-2 to 4-5), and texts were coded and categorised in the English versions. One issue in every coding

process, whereby data are broken down into manageable parts, is the “fragmentation of data” (Bryman 2001:401). To keep data in their context it is critical to allow a quick and easy check of the original source through all stages of work (Flick 1998).

The terms category, code and memo - introduced by Glaser and Strauss 1967 - are used nowadays by different authors in different ways (Atteslander 1995, Fenton 2006, Flick 1998, Mayer 2009, Mayring 2010), and “there is no one correct approach to coding” (Bryman 2001:399). During this study they are used according to Table 4-2.

Term	Meaning
Category	Subject that ties together various codes
Code	Selected quotation of a statement by a respondent
Memo	Note to explain or assign a code within a category

Table 4-2 Meaning of the terms category, code and memo

Within the transcript, the start of a each statement in the respective recordings was indicated to allow for re-examining the message and its emphasis in the original language.To make this possible at any point, codes in this work are always verbatim quotes from the English translation which were only paraphrased in the last stage of the process. Each code was provided with a short note that indicated from which interview the text was taken and where exactly the passage could be found (Fenton 2006).

In order to be able to recheck data selectively even after completing the quantitative part of the research, codes and memos were summarised twice according to:

- subject categories (Supplement 4-6);
- key research questions (Supplement 4-7).

4.2 Data Analysis and Results

Categories were mainly identified by the interview guide and not developed along the key research questions (Mayer 2009). The aim was to capture a broad range of messages that could later be narrowed down in different ways (Table 4-3).

No.	Title of category
1	Arguments for Implementation
2	Support for Implementation
3	Barriers to Implementation
4	Most Important Partner
5	Roles of Partners
6	Need for More Partners
7	Discussion within Partner Organisations
8	Need for Further Research
9	Perspectives of Further Development
10	ParcInterp Quality Badge
11	Qualities of Training
12	Openness of Park Rangers for Training
13	Duration of Training
14	Other Ways except Training
15	Interpretive Ranger as Career Field
16	Understanding of ESD
17	Future Role of ESD

Table 4-3 Categories to organise the content of in-depth interviews

All codes were first listed within these categories (Supplement 4-6). To obtain an initial overview, the codes assigned to the critical categories 1, 2 and 3 were additionally clustered in diagrams and associated with main topics (Figure 4-2 to 4-4). The interviewees identified a broad variety of arguments for the implementation of ParcInterp standards which could be assigned to nine subject areas (Table 4-4, Figure 4-2).

No.	Arguments for the implementation of ParcInterp standards – main topics
1	Quality
2	Excellence
3	Innovation
4	Internationality
5	Singularity
6	Reflection
7	Communication

8	Change
9	Service

Table 4-4 Arguments for the implementation of ParcInterp standards – main topics

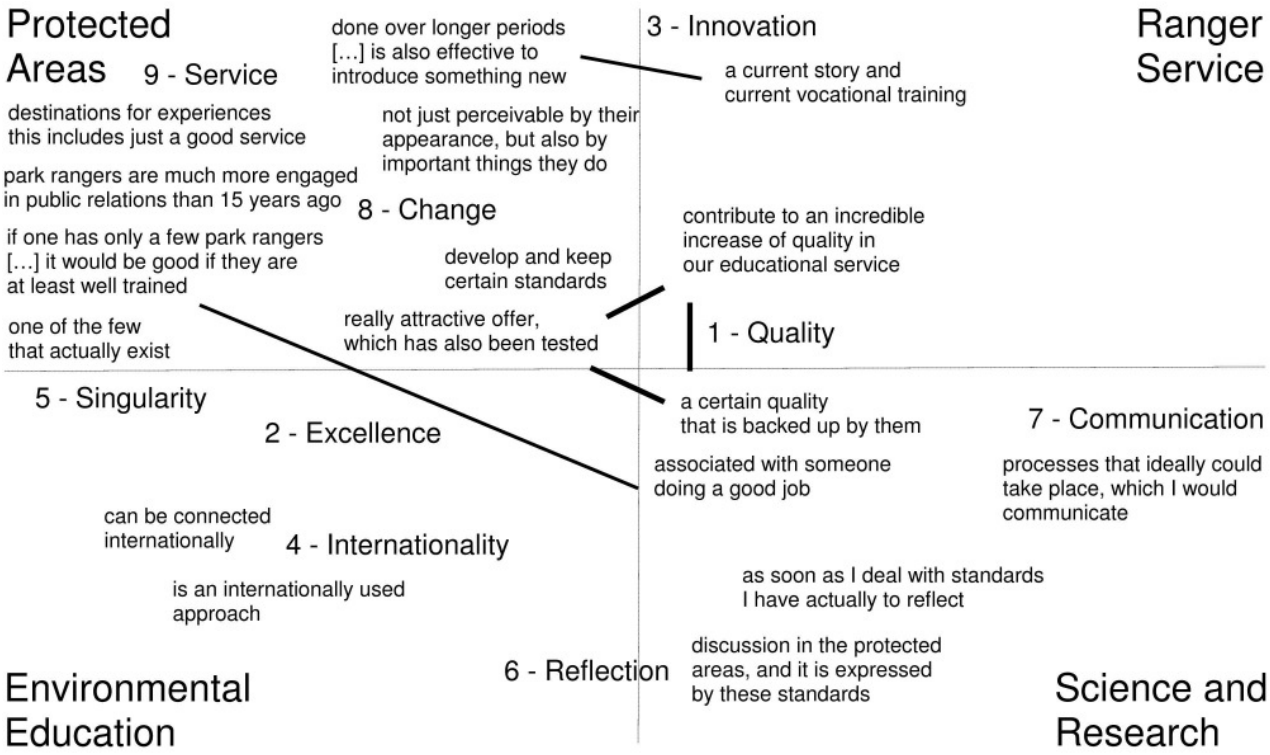

Figure 4-2 Arguments for the implementation of ParcInterp standards – codes of category 1

Some main topics were mentioned by only one of the interviewees and so sometimes the overlap is quite small. Only one topic (quality) was mentioned by three, only two other topics (excellence and innovation) were mentioned by two. One interviewee did put internationality in the first place, while another chose singularity. But although these topics seemed to play a prominent role for these two interviewees, they were not even mentioned by the others. One interviewee (who covered just one subject area) had no topics similar at all to those of any others. In the end, quality was the strongest argument for implementing the standards, followed by excellence and innovation.

Data were then subsequently processed in three steps (Table 4-5).

Step	Process
1	All relevant codes were assigned to the key research questions, summarised in paraphrasing messages and briefly summed up, explaining which message was supported by whom.
2	In terms of answering key research question 2, messages related to this question were additionally assigned to different topics, and codes about conditions impeding the implementation were compared to those supporting it.
3	It was noted where viewpoints of interviewees differed from each other.

Table 4-5 Processing of interview data

4.2.1 Statements with Respect to Key Research Questions 1, 3, 4 and 5

The interviewees represented different organisations which are ranked in the documentation below in terms of their relevance to the work within protected areas. According to this, Europarc Germany is number one (❶), highlighted by the dark symbol. Also directly connected to the protected areas is the German Ranger Association (②), followed by the third ParcInterp partner, the Association for Natural and Environmental Education (ANU) (③), and finally by Eberswalde University for Sustainable Development (HNE) (④) (Table 4-6).

Symbol	Interviewee	Intials	Representative of
❶	Guido Puhlmann	GP	Europarc Germany
②	Frank Grütz	FG	German Ranger Association
③	Annette Dieckmann	AD	Association for Natural and Environmental Education
④	Heike Molitor	HM	Eberswalde University for Sustainable Development

Table 4-6 Symbols for the different interviewees

Even though the interviewees had been cooperating in ParcInterp for three years (Ludwig 2012c), they often took differing perspectives (Figure 4-1). But although their focus was different, it was noticeable that there were few points where interviewees represented opposing views. If interviewees did not support a certain point, it generally seemed more probable that they were not focused on it in the same way as when they might oppose it, as will be shown.

The following results of statements answering key research questions 1, 3, 4 and 5 are directly related to the outcomes of assigning all codes to these questions and grouping them under summarising headings (Supplement 4-7).

> Key Research Question 1:
> What is the demand for training and certification in heritage interpretation and ESD in German protected areas, and how can it be addressed?

According to the interviewees, visitor services are becoming more relevant in German protected areas and the need for them is increasing (❶②). The quality of staff must therefore be improved (②③④), and it is also necessary to strengthen their self-awareness (②④). Certificates may help to achieve this (②).

When the funding phase for ParcInterp finished in 2011, interviewees ❶, ② and ③ stated that their organisations intended to "disseminate the quality standards and criteria of ESD-oriented heritage interpretation developed in the project" and "seek funds to allow the operation of further training courses" (Appendix 2-4).

In the interviews, the interviewees confirmed that more training courses would be welcome (❶②④) and could be completed, for instance, by peer review or exchange (❶③). A quality brand for non-personal services would also make sense (❶②③④) but was seen much more difficult in the current state (❶②③④).

Generally it was thought that interpretation is still not prominent in German protected areas (④). ESD seems to be more widely included, but is also the subject of different policies in the specific *Bundesländer* (③). However, in terms of ESD, it seemed to be clear to all

interviewees that it would remain an important area, even if the UN Decade terminates in 2014 (❶②③④).

> Key Research Question 3:
> What training and programmes for interpretation and non-formal ESD
> are currently delivered in Germany, and how does ParcInterp relate to these
> in terms of standards and delivery of training?

The interviewees (❶③) mentioned two training opportunities and programmes that are related to interpretation and non-formal ESD

- Certified Nature and Landscape Guide (ZNL) (BANU 2012);
- Approved Nature and Landscape Carer (GNL) (BMBF 1998).

In terms of ZNL, all relevant ParcInterp standards have already been adopted within the course (Ludwig 2013). In terms of GNL, the opportunity to include ParcInterp within the existing curricula by the academies of the *Bundesländer* (BANU) was seen (②). To "support the inclusion" was also part of the joint statement of the ParcInterp partner organisations (Appendix 2-4).

As other possible players on the field, respondents mentioned the environmental associations (④), the National Hiking Association (DWV) (③) and a foundation running a ranger service in the *Bundesland* Brandenburg (❶).

> Key Research Question 4:
> To what extent do the ParcInterp certificate and standards
> address the demands from German protected areas?

ParcInterp training was generally seen as valuable by the interviewees (❶②), and there was a strong demand for more courses (❶②④). Reasons given were that these courses were seen as current and relevant, and that interpreters learn to let visitors participate, to respond to and to meet the needs of the group, while the group has the opportunity to experience the topics, make them lively and build up a relationship with their own circumstances (②).

Other questions raised were that it might not be a good idea to try to implement the system to all protected areas (③), and that there should be a continuous exchange about the standards across areas (③④).

Key Research Question 5:
Is the ParcInterp system suitable for effective interpretation management and practice in German protected areas?

The system was seen as suitable in its current state (❶②) and even good enough to be exported to other European countries (❶②).

According to the interviewees, courses should take place at the most appropriate time from the area's perspective (❶) and where the employees work (❶③), and they should relate to the conditions on site (②) and have a good mixture of more and less experienced participants (④).

The duration of ParcInterp training is seen to be appropriate (❶②③④), although there were some concerns in terms of budget, time and willingness, especially from the perspective of the rangers (②③). It was seen as helpful if courses could be carried out over a longer period of time (❶②).

Besides the courses, further suggestions for development included peer counselling and staff exchange; it was felt these aspects would make the training more long-lasting (③).

4.2.2 Statements with Respect to Key Research Question 2

> Key Research Question 2:
> What are the issues relating to uptake of training and standards
> in interpretation and ESD in German protected areas?

This section of the qualitative study was critical, because it was key to answering the second part of question 1: how training and certification demands can be addressed. While it might have been useful to be part of the management in order to identify the demands of the individual protected areas (questions 1 and 4, ⇨5), question 2 could better be answered by those with a wider perspective. For that reason, the statements of the representatives of the stakeholder organisations were processed in more detail.

Again, the points the interviewees mentioned in terms of support of the implementation of ParcInterp standards can be clustered into several main topics (Table 4-7, Figure 4-3).

No.	Supports for the implementation of ParcInterp standards – main topics
1	Activity
2	Strength
3	Outreach
4	Campaign
5	Exchange
6	Funds
7	Time

Table 4-7 Support for the implementation of ParcInterp standards – main topics

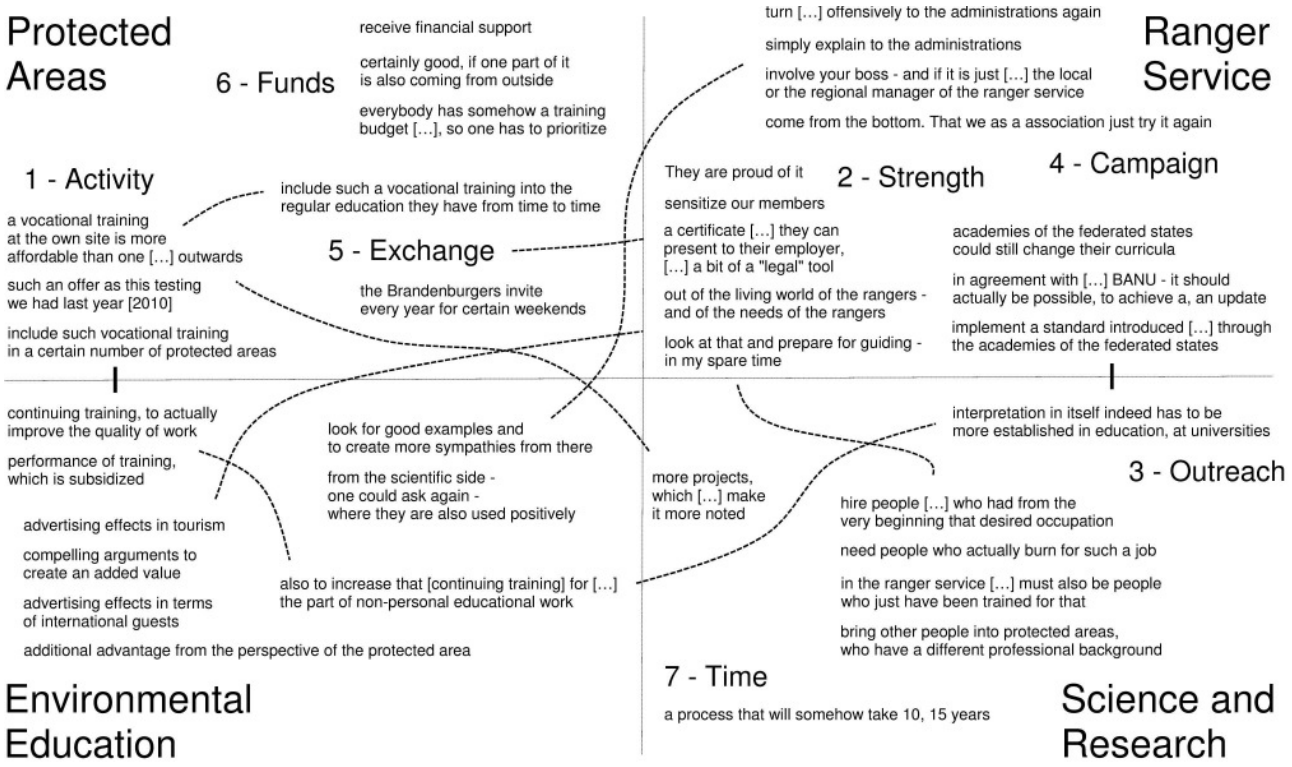

Figure 4-3 Support for the implementation of ParcInterp standards - codes of category 2

Although there were almost no repeated designations, the process revealed that some topics are (or could be) connected in the attempt to develop different strategies to obtain support. While all points that were mentioned could work together, there were no suggestions where interviewees represented conflicting views.

Strength was directly supported by all four interviewees, while activity and outreach were both directly supported by three. Campaign and exchange were directly supported by two interviewees. Funds and time were each directly supported by one interviewee.

In terms of the barriers there were many more topics that could be identified (Table 4-8, Figure 4-4).

No.	Barriers to the implementation of ParcInterp standards – main topics
1	Trodden Paths
2	Workload

3	Insufficient Communication
4	Education Level
5	Reluctance
6	Lack of Understanding
7	Lack of Fire
8	Underestimation
9	Workforce
10	Political Framework
11	Pressure
12	Representation
13	Financial Straits
14	Haste
15	Other Certificate

Table 4-8 Barriers to the implementation of ParcInterp standards – main topics

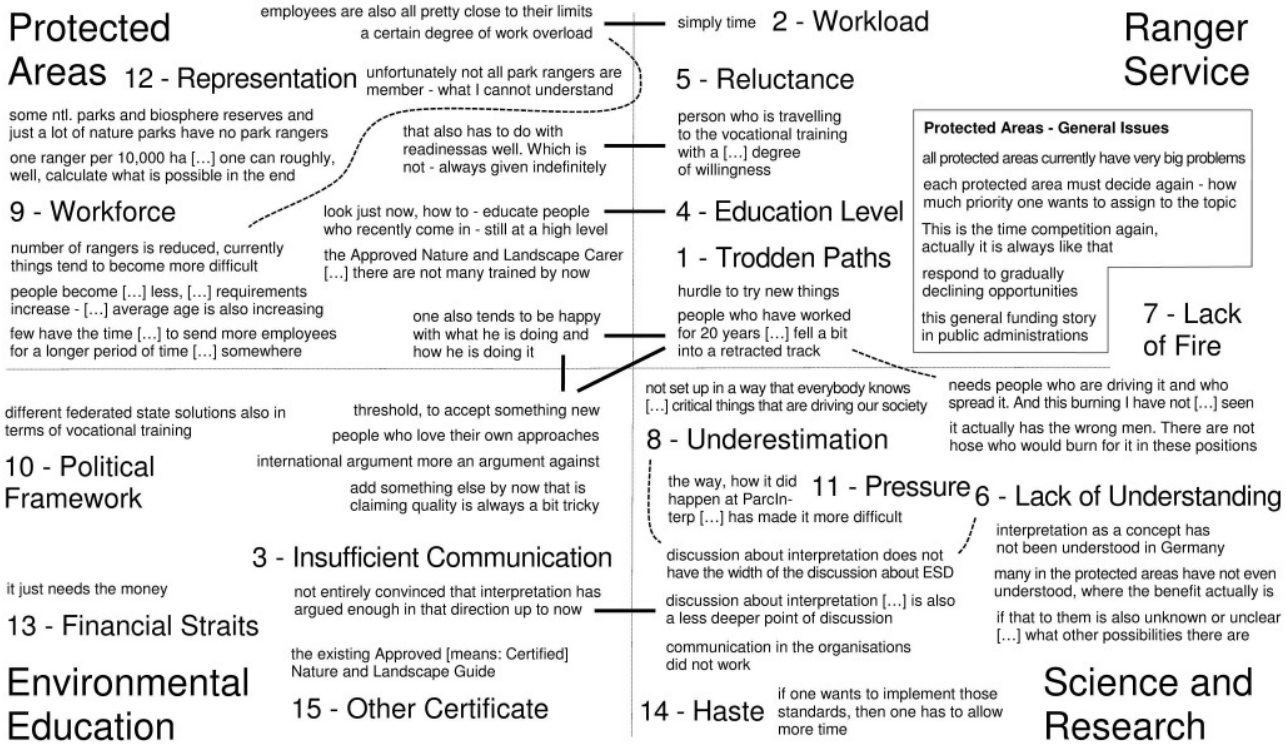

Figure 4-4 Barriers to the implementation of ParcInterp standards – codes of category 3

To make data more manageable, issues in uptaking training and standards, as well as the elements that were mentioned as supporting the implementation, were combined in one table, so both perspectives could be compared (Table 4-9). Although many aspects influence each other, it is clear that the different factors impeding and supporting the implementation could be assigned to four different fields of action (Table 4-10).

Motivation	Organisation	Communication	Transsectoral Issues
Conditions that might impede the implementation of ParcInterp standards			
Trodden Path It requires some effort to start something new. ❶②③ Reluctance Willingness of staff does not always exist. ❶②④ Workload Staff has too much to do – and no time. ❶② Workforce Fewer and older staff has to meet higher demands. ❶ Pressure Staff does not voluntarily participate. ③④ Lack of Fire Staff does not burn for interpretation. ④	Low Education Level It is generally difficult to keep the training level. ❶④ Time Competition There is always a need for prioritization. ❶ Poor Representation Some protected areas do not have rangers, and not all rangers join the ranger association. ❶	Insufficient Communication Interpretation is not really communicated inside and outside partner organisations. ❶②③④ Underestimation The importance of environmental education to society is generally not perceived. ④ Lack of Understanding The advantages of interpretation are not yet understood. ④	Financial Straits There is no sufficient funding. ③ Political Framework Among the *Bundesländer* there is no common line for vocational training. ③ Coordination Requirements Awards must be in accordance with other certificates. ③ Haste Implementation takes time. ④
Conditions that might support the implementation of ParcInterp standards			
Strength Several ways to strengthen staff are suggested. ❶②③④ Exchange An exchange between different protected areas might be useful. ❶③	Activity More training courses and more projects are recommended. ❶②③④	Outreach More partners should be involved. ❶②③④ Campaign The work should be promoted inside and outside protected areas. ❶②③④ Promotion The benefit for protected areas should be underlined. ③	Funds Additionally to the budget of the protected areas, funding from outside is required. ❶③ Time Implementation needs time. ④

Supported by: ❶ GP - Europarc Germany
② FG - German Ranger Association
③ AD - Association for Natural and Environmental Education (ANU)
④ HM - University for Sustainable Development

Table 4-9 Conditions impeding / supporting the implementation of ParcInterp standards

No.	Fields of action in terms of the implementation of ParcInterp standards
1 2 3 4	Motivation Organisation Communication, Transsectoral issues.

Table 4-10 Fields of action in terms of the implementation of ParcInterp standards

In terms of the probable support, opinion was balanced. All interviewees mentioned aspects from almost all fields. In terms of the barriers to implementation, the focus of the interviewee representing the protected areas (❶) was mainly on motivation and organisation, while the aspects concerning the surroundings were emphasised more by the representatives of education/ESD (③) and of research/interpretation (④).

According to the interviewees, employees prefer 'trodden paths', i.e. familiar procedures, have to shoulder huge workloads, are sometimes reluctant to take on more work, and struggle with their educational level. Besides insufficient communication, these were the barriers most mentioned – and they belong to the field of motivation which seems to be most crucial.

The absence of a statement does not necessarily mean that the interviewee had no opinion in that subject. In some cases, the conversation simply did not develop in that direction. Conversely, concerning the question of support, some statements were made by several interviewees because they were explicitly asked about those – e.g. about other partners that should be involved (Appendix 4-2). These points especially needed to be rechecked in the questionnaire survey (⇨5).

The concern that interviewees would tend to talk only about positive aspects and avoid talking about problems proved not to be the case.

4.2.3 Viewpoints that Did Differ from Each Other

Where interviewees represented different viewpoints, those generally resulted from different priorities rather than from serious disagreements. In order to understand and record the different perspectives of the respondents, it is worthwhile noting the keypoints – even if they do not always relate directly to the key research questions (original quotations: Supplement 4-6).

4.2.3.1 Roles among Partners

One interview question was which partner should play the most prominent role in ParcInterp. Of course, one aspect was that different partners also play different roles. Interviewee ② saw its role to "come from the bottom" and understood ANU as "an association that […] a) promotes [and] b) improves [standards]". However, interviewees ②,③ and ④ pointed immediately towards Europarc (②: Europarc […] as a distributor, as a contact agent, as someone who has personal contacts",③: "considering its mission - it is Europarc", ④: "when it comes to the protected areas, I find that Europarc is the right partner there"), while Europarc itself did not really want to take that role (❶: "actually all three", "I would […] not want to weight it absolutely […] everyone in his field in his place").

4.2.3.2 Lack of Communication

A significant aspect seems to be the lack of communication within and outside the partner organisations which results in a lack of understanding of ParcInterp. Although this was only brought up by ④ ("many in the protected areas have not even understood where the benefit actually is") the partners partly confirmed this deficit (❶: "it could be more", "at the moment it is rather subordinate", ②: "At national level we haven't done anything at the moment", ③: "no really systematically arranged discussions about the introduction of the standards").

4.2.3.3 Involvement of Ministries

In connection with the question about whether it would make sense to involve a higher administrative level to facilitate the implementation of ParcInterp, ② suggested it might be a good idea to come "from a more centralised – ministerial side" as well, while ❶ said: "There is no better by now, if we involve the ministries".

4.2.3.4 Top-Down Approach

When the ParcInterp pilot courses started, participants were directed by their park managers to participate. This was necessary because, in terms of the funding arrangements, each course group had to belong to a different protected area category. While ❶ thought that it was "a good way [when he] simply instructed a wide range of people to join the training", ③ and ④ were more skeptical in this regard (③: "far from the top",④: "how it did happen […] has made it more difficult").

4.2.3.5 Effectiveness and Duration of Training

While ❶ and ② had no doubt in terms of quality (②: "an incredible increase of quality", ❶: "one does realize it in the work of the colleagues […], that […] something […] has changed", "advance these standards and this content? At the moment I do not think so. They are good"),③ did ask, where "the training of the 'hot phase' [had] been effective in the long term", and ④ suggested to "check different concepts and compare them with interpretation".

While ❶ had no doubt that training would be the right (❶: "There is no way around training"), ④ was thinking about other possibilities like "guest visits", "peer counselling" or "subsequent monitoring". And while ② suggested "taking the role of a model" in terms of other

European countries – supported by ❶ (“because we are a European network”) and ③ (“international connectivity is a strong argument for interpretation”), ④ described that as “important but difficult”.

On the other hand, while ❶, ② and ④ thought that five weeks of training were practical (❶: “‘yes’ - without restrictions, ②: “not only justifiable, but […] necessary”,④: “this is appropriate”), the first reserved reaction of ③ was “too much” (changing later to “reasonable because I want a high quality”).

All in all there was a noted tendency by ❶ and ② to put things in place, while ④ and especially ③ appeared to be a bit more cautious.

5. Quantitative Analysis

5.1 Methodology

5.1.1 Justification

“While qualitative methods are ideal for exploring attitudes, meanings and perceptions on an individual basis, questionnaire methods provide the means to gather and report simple information on the incidents of attitudes, meanings and perceptions among the population as a whole” (Veal 2006:233).

As shown in Chapter 3, quantitative analysis in this work is mainly used for the research questions that could not be answered or sufficiently proved by qualitative analysis. Qualitative analysis brought up views about the situation in the protected areas, resulting from information provided by key individuals, and these needed to be verified and contextualised. The tool chosen was a respondent-completed postal (e-mail) questionnaire survey.

Because the number of national parks, biosphere reserves, and nature parks with their own visitor services staff is small in Germany, it was decided that, to obtain a statistically-significant number of responses, all the areas united under the umbrella of Europarc Germany should be included. By using the whole population instead of a sample, sampling errors could be avoided.

German park administrations are different in size and organisation. Visitor services are sometimes the responsibility of the park manager, a public relations person, an educational department, the chief of the ranger service or often a mixture of these (Europarc Deutschland 2008a). The employees involved have different interests, salaries, and

educational levels. The only common and comparable post is the park manager who is also the only person able to answer questions that concern more than one department. For that reason, questionnaires were designed to be addressed to the park managers.

Social desirability bias could result in incorrect answers, especially in sensitive questions, e.g. where the abilities of park managers were touched upon. Respondents in higher positions also tend to answer even if they have no information (Babbie 2010). It was important, therefore, to disguise potentially sensitive questions and to look for patterns in answers during data analysis.

The “most notorious problem of postal surveys” that had to be taken into consideration was low response rates (Veal 2006:241). There was a risk that the survey would not be representative if many people (probably the less interested) did not answer, and because non-respondents might differ from respondents in other ways than simply non-participation (non-response bias). It was important, therefore, to achieve a high response rate. For that reason, two follow-up e-mails within one month were planned.

To adapt the procedures to the target group – especially knowing which form of delivery, and its extent, park managers preferred and was reasonable because of other research surveys in the parks – five park managers were asked during a conference:

- whether it would be possible to run a fully electronic survey;
- how much time they would work on the questionnaire.

As a result, an online survey was rejected, and a maximum time frame of ten minutes was recommended.

This meant that:

- the questionnaire had to be delivered in a file containing an address for return;
- the introduction had to be very brief;
- the number of questions would be limited;
- most questions had to be closed-ended and pre-coded;
- questions could not require further reading to be answered.

5.1.2 **Developing the Questionnaire** (Appendix 5-1 and 5-2)

In terms of quantification, respondent-completed questionnaires are an effective way to get feedback. But they need an unambigious layout. The disadvantages are that there is a bias in answer categories ("the researcher's structuring of responses" – Babbie 2010:256), and that there is no way of realising or reacting to misunderstandings or uncertainties (Oppenheim 2000). As the topics were covered quite intensively and from different perspectives during in-depth interviews, before the questionnaire was designed, this could partly compensate for these concerns.

Central variables of the questionnaire like the role of staff, the relevance of interpretation and ESD for parks, the demand for ParcInterp standards, vocational training and the chances of, and challenges to implementation, resulted from the in-depth interviews (⇨4.2).

The internal logic of the questionnaire followed a "funnel approach" (Oppenheim 2000:110), leading the respondent from the protected area category through the different tasks of areas and staff to ParcInterp standards and vocational training.

Because it was likely that respondents were not immediately familiar with the ParcInterp material they received in 2012, critical attributes of interpretation and ESD were summed up in Likert scale questions (Q6, Q7 and Q16) asking respondents to value individual points to make sure they recalled them, before they gave answers to the questions requiring this knowledge.

To find out how important the challenges of ParcInterp were to respondents, they were asked about their knowledge about ParcInterp (Q13) and about the rank these challenges have in comparison with others (Q2). Such questions were not asked in a sequence to avoid cursory reading. The last four questions also worked as test questions, picking up topics from questions that were asked before.

To create reliable and valid questionnaires, Babbie (2010), Oppenheim (2000) and Veal (2006) recommend short and simple questions each dealing with only one or two ideas, and avoiding jargon, ambiguities, negations, leading questions or "double-barrelled questions" (Oppenheim 2000:128, Babbie 2010:257). Other critical points, especially in terms of the fact that data is treated confidently but not anonymously, are questions on sensitive topics and terms and questions that might cause social desirability bias in any other way. To be successful with a survey, respondents must be competent and willing to answer, and questions should be relevant to them (Babbie 2010).

Open-ended and pre-coded questions could be asked. As mentioned above, the questionnaire consisted mainly of the latter. Beside the fact that open-ended questions were the subject of the qualitative research, other reasons were the demand to cover all topics in limited time, the expected lower response rate when asking open-ended questions in respondent-completed questionnaires (Veal 2006) and the efficiency of the analysis. No

question was longer than twelve words, and to “include all the possible responses that might be expected” (Babbie 2010:257), an answer category as ‘Other…’ was added where necessary.

To avoid being “offputting” to respondents (Oppenheim 2000:109), the introduction was very brief and no personal data were required. The only way of tracing the questionnaire back to the respondent was the e-mail address. On the questionnaire itself, the name of the protected area or of the park manager was not included. For the purposes of the research, personal data were not relevant, and secondary data about the areas could be obtained quite easily, if necessary.

Of the 22 questions that were included, there were two classification questions, two contingency questions (each with one open-ended option) and 17 matrix questions using five-point Likert scales.

Using the scale system was preferred because it uses space efficiently, allows respondents to give information on the meaning of several topics in a short time, and to relate answers to critical points to other ratings within the same question. For example, if training in guiding visitors was seen as very important (rated with ‘5’), it was possible to compare how important it was in relation to other visitor-oriented services.

Today, Likert scales sometimes use even-numbered response categories because respondents tend to tick the box in the middle when researchers want to find out if points are more or less important to them. Despite this, the scales in the questionnaire used five categories, because lots of marks in the central column could have been a hint about the conscientiousness with which the questionnaire was processed (⇨5.1.3).

As a graphic guide to the rating scale, a system of dots was introduced with the first question of that type (Table 5-1).

Symbol					
Rating / Value	5	4	3	2	1
Approval	Very high	High	Moderate	Low	Very low

Table 5-1 Meaning of symbols on the answering columns of Likert scale questions

Given the brevity of the questionnaire, in some cases Likert scale questions were preferred to other possible question types, even if the design of the questionnaire became less diverse. This was to make answering the questionnaire easier by introducing as few question formats as possible.

One point considered was to add a column 'Can't choose'. This would have been an option to avoid respondents making selections by chance, if they had no idea. But yet another column might have been confusing and could have distorted the result.

5.1.3 Procedures

The questionnaire was developed after the qualitative analysis was completed. It was pre-tested three weeks before the survey started. The pre-test was done with three staff members of the three different protected area categories. The aim of the pre-test was to make sure about its length, and to replace ambiguous wording.

Because respondents "may 'project' some kind of person or organisation 'behind' the question, and this may bias their responses" (Oppenheim 2000:103) and to get an adequate response rate, questionnaires were sent out by the chief executive of Europarc

Germany in Berlin, from whom park managers were used to receiving such requests. It was announced as scientific research to raise quality, with data used confidentially and a required length of completion time of ten minutes. Furthermore, it was related to the ParcInterp standards which had been sent out to the Europarc park managers in 2012. All other information about the survey was given directly on the questionnaire.

The questionnaire was addressed to all 44 park managers of the protected areas by e-mail from Europarc headquarters on 21 March 2013. Park managers where asked to complete the questionnaire and return it by e-mail to *Bildungswerk interpretation*. To avoid bias, the author's name (known to most park managers) was not mentioned. By 2 April, eight protected areas (18%) had answered. The first follow-up letter – again with the questionnaire attached – was sent out by Europarc to all other areas on 3 March, prompting twelve more answers (45%). After the second follow-up letter was sent on 17 April and a total period of seven weeks, the response period closed on 9 May resulting in 34 responses (77%) (Figure 5-1).

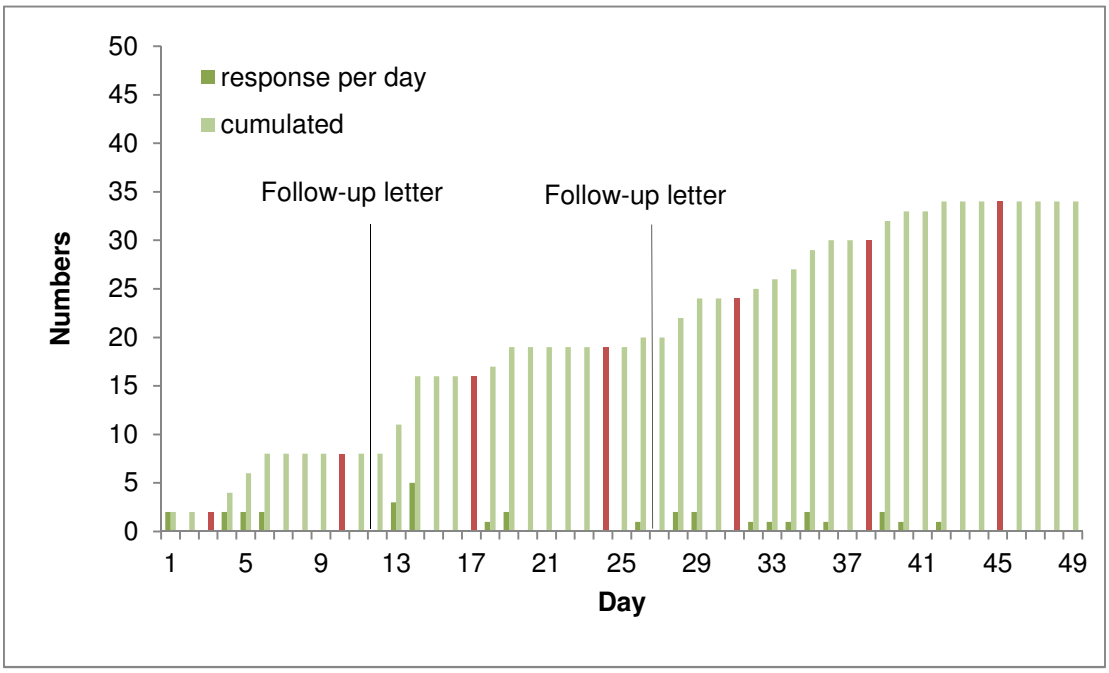

Figure 5-1 Response rate questionnaire survey

Of the 34 responses, n=17 (50%) came directly from the e-mail addresses of the park managers. But n=4 of these respondents did not return the questionnaire: One had no interest in the topic, two had no personal means to provide visitor services and therefore meant they could not answer, and one saw the responsibility as that of a regional ranger service (⇨5.2.2.3). Because the survey was related to national parks, biosphere reserves and nature parks, one returned questionnaire from a geopark and one from a nature reserve (Appendices 5-4 and 5-5) were not counted (⇨5.2.2.5). In the end, 28 questionnaires were taken into consideration which represented 64% of all Europarc areas, within which nature parks were comparatively weakly represented (Table 5-2).

Protected area category	Number of areas	Returned questionnaires	Rate of return
National park	14	11	79%
Biosphere reserve	15	11	73%
Nature park	15	6	40%
Total	44	28	64%

Table 5-2 Representation of protected area categories in returned questionnaires

The data from all questionnaires were transferred into a data matrix containing all 109 exclusive attributes including those where respondents could suggest their own answers (Appendix 5-6). Within the 96 given variables (x 28 areas = 2688 cases) there were 104 fields with missing data (4%).

The phenomenon that respondents consistently tick the same boxes – at Likert scale questions preferably the mid-point answers – was not significant. There were five questions, where five or more respondents ticked more than three boxes in a row: 7, 11, 16, 20, and 22. But, in total, there were only five respondents who ticked more than three boxes in a row on more than three occasions. In no case did they chose the central column, and any apparently uniform ratings actually showed different values in answer to different questions.

After the first review, data were converted to a numerical format by coding all variables and attributes in order to quantify and inter-relate them. To search for distinctive factors, the matrix was further developed by introducing formula for calculating responses according to the individual variables against backgrounds like protected area category, date of respond, or sender.

To get a better overview, the frequency of all answers in total numbers was added to one questionnaire form (Appendix 5-3). To all Likert scale questions, columns with the mean average of answers and with the numbers of response were also added. In terms of the open-ended questions 14 and 18 (if selected by respondents), and of detailed information that was provided where additional options not mentioned in the scheme were requested, the complete wording was transferred.

5.2 Data Analysis and Results

All mode and mean ratings (Table 5-3) mentioned in the analysis are based on Appendix 5-6 and mostly relate to the ordinal variables of the Likert scale questions (Table 5-1).

Mean	Average, i.e. representing the sum of the values of several observations divided by their number
Median	Average, i.e. representing the value of the 'middle' case in a rank-ordered set of observations
Mode	Average, i.e. representing the most frequently observed value or attribute

Table 5-3 Examples of mathematical averages (following Babbie 2010:G7 and Bryman 2001:501 and 505)

5.2.1 Results in Respect of the Key Research Questions

Key Research Question 1:

What is the demand for training and certification in heritage interpretation and ESD in German protected areas, and how can it be addressed?

Besides “general management and organisation”, “visitor-related education, information and public relations” seems to be the most prominent field of activity in German protected areas (Q2, mean: 4.2). Other categories most frequently mentioned by the respondents (like “environmental education”, “visitor management” or “barrier-free access”) also belong to the same topic.

79% of the respondents state that the requirements for visitor-related education are increasing; no respondents indicate that they are decreasing (Q3).

Most respondents do not agree with the proposition that “vocational training in interpretation and ESD does not help members of staff in this field” (Q11: mean 1.9). Comparing the demand for vocational training on heritage interpretation with that provided on ESD (Q9), ESD has a higher mean (3.6 vs. 3.3) and is currently seen as more important (Q8: 4.2 vs. 3.4). This is especially true for biosphere reserves (Q8: 4.7 vs. 3.5). The idea of connecting both fields in training (Q10) is highly supported (4.0), while not as many respondents see an urgent need to complete such training with certificates (3.2 - in biosphere reserves even 2.3).

Key Research Question 2:
What are the issues relating to the uptake of training and standards
in interpretation and ESD in German protected areas?

In general, there are no issues that are rated significantly as high by the respondents. The highest mean (Q11), “little time for training”, is at 3.1, followed by “inadequate financial means” (2.7). Consequently the two biggest hurdles (Q19) are seen in terms of “costs” (mean 3.8) and the “release of employees” (mean 3.7) that “are already busy with other tasks” (Q21: mean 4.0).

Respondents do not think that “employees are generally not very open to vocational training” (mean 1.8, mode 1).

For most respondents, the reasons why there has not been much exchange about ParcInterp until now (Q15), seem to be less a “lack of interest” (mean 2.2) but more a “lack of information” (mean 3.7, mode 5) or that “other subjects are more important” (mean 3.8, mode 4). Several respondents additionally state – again – that they have too much to do.

When it comes to the workforce, the varying conditions in the different protected areas need to be taken into account. According to the respondents, the work forces, converted to full-time positions, range in the four employment groups that were defined (Q4) from 0 to more than 25 employees, and – regardless of size – national parks seem to have generally more staff than biosphere reserves and nature parks (Table 5-4).

Number of staff in protected area categories employed in education, information and public relations				
Protected area category	Permanent staff without rangers (mean)	Rangers with > 50% of their work in this area (mean)	Rangers with 25-50% of their work in this area (mean)	Temporary staff converted to full time position (mean)
National park	7.6	7.9	9.5	6.0
Biosphere reserve	2.4	1.9	2.7	0.7
Nature park	3.8	0.0	1.0	1.8
Total	Range 0.5-22.0 4.8	Range 0.0-40.0 3.9	Range 0.0-23.0 5.0	Range 0.0-26.0 3.0

Table 5-4 Number of staff employed in education, information and public relations (according to Q4)

Key Research Question 3:

What training and programmes for interpretation and non-formal ESD

are currently delivered in Germany, and how does ParcInterp

relate to these in terms of standards and delivery of training?

Only a few programmes and training offers are mentioned by the respondents besides ParcInterp (Q14). TOPAS is mentioned twice – but it is the completed forerunner of ParcInterp. ZNL is mentioned once, but it just picked up TOPAS and ParcInterp standards in terms of guiding (BANU 2012). Besides TOPAS and ZNL, three providers of interpretive training are named by three individual respondents which confirms their small number in Germany.

The respondents generally state that their knowledge about ParcInterp is not too deep (Q13: mean 2.8, mode 2).

> Key Research Question 4:
> To what extent do the ParcInterp certificate and standards
> address the demands from German protected areas?

The general importance of visitor-related services (Q2) which seems to be increasing in German protected areas (Q3) is mentioned above. Vocational training itself is rated very highly (Q5: mean 4.2) – significantly higher than certificates (mean 3.0), while “praise and recognition” receives the highest rating (mean 4.4, mode 5).

In terms of interpretation, ParcInterp underlines four qualities (Ludwig 2012b:10). Answering Q6, three of them are rated very highly by the respondents: “direct relationships to objects on site” (mean 4.8), “involvement of visitors” (mean 4.5) and “strengthening responsibility for natural and cultural heritage” (mean 4.2). All of them have a mode of 5, and 4.8 is the highest mean in the survey. The fourth quality, “merging complex relationships in themes”, also gets a high rating (mean 3.7) but stays clearly behind. One reason might be

that this quality, which is more characteristic for interpretation than for other approaches (Ham 2013), is not that well known to all respondents (cf. Q13).

In terms of ESD (Q7) “identífying themes for the idea of equal global opportunities” has the lowest rate (Q7_2: mean 3.4, mode 3), while “identifying themes for nature as a basis for life” (Q7_1) and “identifying themes for emphasizing the responsibility to future generations” (Q7_3) are both rated highest (mean 4.6, mode 5). This applies to all protected area categories. Even biosphere reserves, showing – as part of a UNESCO programme – the highest ratings in all points, follow that scheme (Table 5-5).

Which quality criteria of ESD are important, and how important are they? (means)										
Question 7	7_1	7_2	7_3	7_4	7_5	7_6	7_7	7_8	7_9	7_10
National parks	4.5	2.8	4.6	4.0	3.3	2.9	3.9	3.6	3.1	3.5
Biosphere reserves	4.7	4.2	4.7	4.6	4.7	4.3	4.5	4.5	4.3	4.3
Nature parks	4.7	3.2	4.3	3.8	4.2	4.2	4.0	4.5	3.5	4.0

Table 5-5 Importance of ESD criteria according to protected area categories

This is striking because respondents generally rate ESD higher than interpretation (Q8) – and ESD always underlines equal consideration of the environment and global justice (WCED 1987). In this context it is also interesting that “conservation of cultural assets” (Q2) has the lowest rating (mean 2.0) beyond the fields of activity – although all park administrations and mainly those of biosphere reserves (mean 1.8) and nature parks (mean 2.8) are also responsible for cultural heritage.

According to these results and deviating from ParcInterp (Ludwig 2012b), the understanding of ESD in German protected areas in the ninth year of the UN Decade ESD seems to be still very focused on the classic ecological and intergenerational dimension (⇨6.2.4).

Key Research Question 5:

Is the ParcInterp system suitable for effective interpretation management and practice in German protected areas?

89% of the respondents state that the ParcInterp system is generally applicable to their area, while all others base their contrary assumption on lack of staff in their administration (Q18).

In terms of the advancement of the system (Q20), the highest capability is seen at Europarc Germany (mean 3.8), while the associations for nature protection get the lowest, but still a moderate, rating (mean 2.9). Among the ParcInterp partners, ANU (mean 3.6) is seen as more relevant than the German Ranger Association (mean 3.2) – although the "general strengthening of the ranger profession" is seen as the point that could encourage the implementation of the ParcInterp standards best (Q22: mean 4.3) – besides "external financial means". It appears the German Ranger Association is not seen as the most important organisation to achieve that aim (⇨5.2.2.3).

Looking at training contents related to different ParcInterp standards (Q16), respondents say that "guiding of visitors" is most important (mean 4.5, mode 5). It is the only topic where nobody suggests that it is not essential, and generally personal services are rated more highly than non-personal approaches.

One reason could be that non-personal work tends to be out-sourced by park managers (Europarc Deutschland 2008a). But usually protected area staff are at least responsible for "compiling text for panels" – and this is rated explicitly as low (mean 2.7). Additionally the lowest rating (mean 2.6, mode 1) is given to "developing invitations to tender" in terms of trails and centres.

Asked for points that are relevant in terms of the organisation of ParcInterp training (Q17), respondents state that it is most relevant that “training courses do not take place during the season” (mean 4.4). Nobody states that this is not relevant. There might be a conflict rising from this, because “season” means summer season in almost all protected areas, at least one training week of the ParcInterp basic course is supposed to be run in summer (Ludwig 2012a, ⇨7.2), and BfN evaluation of a pilot course in winter had shown that this caused problems (Ludwig 2004).

The answers to the question, whether a training course should consist of participants from the same protected area category (mean 2.9), with highest ratings at 5 and 1, are strikingly widely dispersed. That participants leave their own areas to join ParcInterp training gets the lowest rating (mean 2.6). This could relate to the high relevance that is seen in terms of the “direct relation to objects on site” (Q6: mean 4.8).

One remark to Q17 is “that participants carry out the same or similar tasks” they are trained for. This is not always the case, because ParcInterp combines personal and non-personal services (Ludwig 2012b), while they are often seperated in German protected areas (Europarc Deutschland 2008a). Park rangers are usually doing guided tours while park scientists write texts for brochures and panels (Lütkepohl 2013) (⇨7.2).

5.2.2 Other Remarkable Issues

5.2.2.1 Potential Views of Non-Responding Areas

One question in terms of non-response bias was, whether it can be assumed that ParcInterp is unimportant for areas that did not answer (n12=27%). One indication could be that respondents who returned their questionnaires immediately think that heritage interpretation

and ESD are critical and / or that vocational training covering these subjects is urgent, while respondents who did not react before they received follow-up letters do not think so. But as Table 5-6 shows, this is not the case.

How important are the following within information and educational work in your protected area?		mean
Education for sustainable development	A - responds 21.03.-02.04.13 B - responds 03.04.-17.04.13 C - responds 18.04.-09.05.13	3.8 3.2 3.7
Heritage interpretation	A - responds 21.03.-02.04.13 B - responds 03.04.-17.04.13 C - responds 18.04.-09.05.13	3.5 3.1 3.5
How big is the current demand in your protected area…		mean
…for vocational training in ESD?	A - responds 21.03.-02.04.13 B - responds 03.04.-17.04.13 C - responds 18.04.-09.05.13	3.9 4.6 4.1
…for vocational training in heritage interpretation?	A - responds 21.03.-02.04.13 B - responds 03.04.-17.04.13 C - responds 18.04.-09.05.13	2.9 4.0 3.4

Table 5-6 Answers to Appendix 5-2 Q8 and Q9 with respect to the three response periods

Respondents answering during the last period of response are not generally less interested, and these results do not suggest that areas that did not answer have no interest.

5.2.2.2 Differing Answers from Park Managers and Employees

One explanation for the fact that the demand for vocational training is seen to be lowest by respondents from the first period (A) (Table 5-6) might be that later questionnaires tended to be sent back not by the park managers themselves but by their employees who would directly benefit from such offers (Table 5-7).

Questionnaires personally returned by park managers		
During period A (21.03.-02.04.13)	During period B (03.04.-17.04.13)	During period C (18.04.-09.05.13)
71%	40%	30%

Table 5-7 Percentage of park managers personally responding to the survey

The initial aim of the survey to ensure higher comparability because only park managers responded could not be achieved, because the number of evaluable questionnaires from all areas would have been too small: n=12 (27%). The aim had been met by the assumption that answers from those other than park managers might have been inconsistent and difficult to compare.

To find out whether this is true, the data from Table 5-6 was checked against all other variables, filtering out those where the rating of respondents from period A did significantly (>0.5) differ from the ratings of respondents from periods B and C. Twelve variables ratings from B and from C were significantly divergent from period A in one direction, while in one case those from period B and C were divergent from period A in the opposite direction (Table 5-8).

Differences between respondents of response periods A (21.03.-02.04.13), B (03.04.-17.04.13), and C (18.04.-09.05.13)	Mean		
	A	B	C
Can the confidence and self-esteem of staff (especially rangers) be strengthened by certificates? (Q5_2)	3.5	2.9	2.7
How important is “bringing together ecological, economic and social aspects” as a quality criteria of ESD? (Q7_4)	3.7	4.3	4.5
How important is “balancing between conservation and change to act sustainably” as a quality criteria of ESD? (Q7_6)	3.3	3.9	3.9
How important is “choosing from a variety of suitable methods” as a quality criteria of ESD? (Q7_9)	3.0	3.8	4.0
In terms of training, how relevant is the problem that members of staff in this field do not know enough about training in interpretation and ESD? (Q11_5)	2.7	2.1	2.0
To what extent does the incorporation into management plans for protected areas encourage the implementation of nationwide standards? (Q12_2)	4.0	3.2	3.4
So far, there has not been much exchange of information about ParcInterp within protected areas. Was that because of lack of information? (Q15_1)	4.3	3.3	3.5
How important is the content “compiling text for panels” from the ParcInterp training courses? (Q16_4)	2.0	2.9	3.0
How important is the content “designing panels, audio elements and interactive elements” from the ParcInterp training courses? (Q16_5)	2.6	3.3	3.3

In terms of the organisation of ParcInterp training, how important is it that a training course consists of participants from the same protected area category? (Q17_4)	4.6	2.1	2.5
In terms of the organisation of ParcInterp training, how important is it that there is a lead time of about one year? (Q17_5)	4.6	2.6	3.4
To what extent is it hindering the implementation of ParcInterp standards that employees have to force themselves to strike new paths? (Q21_1)	3.3	2.4	2.4
To what extent could the inclusion of other partners (except Europarc, German Ranger Association and ANU) encourage the implementation of ParcInterp standards? (Q22_2)	3.0	2.3	3.8

Table 5-8 Divergent answers between respondents of different response periods

Significant deviations in 13 out of 92 relevant variables (14%) are not that great. Nevertheless it is interesting to observe, where those differences occurred.

Respondents from period A (71% park managers) put more emphasis on the incorporation of standards in management plans and on certificates. They are more likely to see a lack of information on ParcInterp and of knowledge about training. In terms of the organisation of training, they tend to think that there should be a lead time of about one year and participants should belong to the same protected area category. In terms of the contents of ParcInterp training, they assume it would be less relevant to learn how to compile texts and how to design panels, audio elements and interactive elements. In terms of ESD, in three cases respondents from period A give significantly lower ratings than respondents from periods B and C (34% park managers).

There was not much control over the competence of the individual park managers in terms of this subject, and about the question of passing on questionnaires within the administration, and if this happened: at what stage and to which department, and whether these employees had access to ParcInterp information that had been given to the protected area the year before. But mainly because at differing ratings of period B and C respondents were almost always pointing in the same direction, there is an obvious indication that those

differences result from the stronger presence of park managers in period A and of employees in periods B and C (⇨7.4).

5.2.2.3 Low Response Rates from Individual *Bundesländer*

Low response rates from Hamburg, Rheinland-Pfalz and Brandenburg were noted (Table 5-9).

Bundesland	Number of areas	Returned questionnaires	Percentage
Baden-Württemberg	1	1	100%
Bayern*	5	2	40%
Berlin	-	-	-
Brandenburg	4	1	25%
Bremen	-	-	-
Hamburg	1	-	0%
Hessen*	3	3	100%
Mecklenburg-Vorpommern	10	6	60%
Niedersachsen*	4	4	100%
Nordrhein-Westfalen	2	2	100%
Rheinland-Pfalz	2	0	0%
Saarland	1	1	100%
Sachsen	3	2	67%
Sachsen-Anhalt*	4	4	100%
Schleswig-Holstein	2	1	50%
Thüringen*	6	3	50%

* Protected areas managed by more than on *Bundesland* are counted more than once

Table 5-9 Percentage of returned questionnaires from individual *Bundesländer*

There was no answer from Hamburg even after two follow-up letters and one direct e-mail. Because there is just one Europarc area in Hamburg, it was ignored in the end.

From Rheinland-Pfalz, one of the two park managers stated that they are re-structuring and not offering any educational services at present (Dexheimer 2013),

From Brandenburg, two out of four park managers pointed out that there is a foundation responsible for environmental education in their areas.

In a personal communication, the park manager of one of the affected areas from Brandenburg stated that the questionnaire would only be relevant to that foundation (Nowak 2013). At the same time, the head of the ranger service that is part of this foundation (Naturschutzfonds Brandenburg 2013) confirmed that they have taken over essential educational tasks from park administrations but are not responsible for non-personal services, and that the coordination process is not yet complete (Lütkepohl 2013). The foundation's ranger service returned just one questionnaire which was not related to one specific protected area and not involved in the regular analysis but showed that there are 95 rangers on duty within the protected areas of Brandenburg, and that the ranger service currently prefers solutions that are adapted to the service and must not necessarily result from ParcInterp (Post 2013).

Because there is nationwide agreement on the implementation of ParcInterp, this is critical information. But in terms of the survey, there were only four out of 44 areas (9%) involved, and therefore it has not seen to be relevant in this case.

5.2.2.4 Uncertain Roles and Responsibilities

In addition to the fact that protected areas from Brandenburg delegated the survey to an external ranger service, two other areas (7%) seemed to relate it exclusively to rangers and ignored some questions, because they had no rangers. This resulted in most of the

missing data (4%). Although the direct impact on the survey is not that significant, this might indicate a larger problem, if parks having rangers responded in the same way. One hint that they did so could be that training in non-personal services (where rangers are often not employed in Germany) was seen as less important (Q16). On the one hand, this problem might have been caused by the lack of rangers, and on the other hand by the strong role the German Ranger Association played in ParcInterp (Ludwig 2012a) which resulted in the perception of 'ranger training' (compare Figure 2-7) while other staff also participated in the courses (Ludwig 2012c).

To look at ParcInterp that way would also allow park managers (who often state that they are very busy) to reduce the problem of implementation to a smaller unit of their administration, avoiding changes in the whole organisation (⇨7.2).

Another critical subject in terms of responsibilities is the role of ZNL. One responding national park pointed out that there are about 100 forest guides in the area while one nature park stated that ZNL (guides) spent 3,000 hours on guiding in 2012. But given the number of ZNL that are trained every year by eleven academies (BANU 2012), this information doesn't seem to be complete. Unfortunately, there are no numbers available at BANU about how many ZNL are currently (re)certified for guiding in protected areas (Hein 2010).

Although in Q14 ("training offers for heritage interpretation") ZNL is mentioned just once, the "incorporation into already existing nationwide sets of criteria" (Q12) is seen as highly relevant (mean 3.9 – and the only mode 5 in Q12). The fact that ZNL are trained to meet ParcInterp criteria (⇨2.4) and periodically need to be re-certified (BANU 2012) might become important for the implementation of ParcInterp (⇨7.1).

5.2.2.5 Unconsidered Protected Areas

The survey was focused on Europarc national parks, biosphere reserves and nature parks. After the literature review, it seemed certain that all these areas have staff for educational services. As the survey has shown, this was not entirely true. Five responding areas (16%) mentioned that they have neither educational nor ranger services, while one nature reserve stated that they had about seven employees in this field (Supplement 5-1).

Within Europarc areas, the low response rate of nature parks (40%) was evident. According to German law, only a few nature parks have administrations with their own departments for visitor services (⇨2.3). But one nature park that is member of VDN and not of Europarc returned a questionnaire reporting that they had 40 employees with 25-50% of their working time in the visitor service (Supplement 5-2). One reason might be that this park is also a UNESCO geopark. Park management recommended contact with other UNESCO geoparks that might also be active in this field (Eckhardt 2013).

Although attempts were made to involve VDN and geopark main offices, they had no reliable information about activities in individual parks and in terms of limited time resources, both chief executives did not support the research by sharing the request with their areas (Köster 2013, Ellger 2013).

Although it is unlikely that there are many other areas comparable to those mentioned, uncertainty remains on that matter (⇨7.4).

6. Synopsis and Discussion

To study the feasibility of implementing ParcInterp training standards in German protected areas, a literature review, in-depth interviews and a questionnaire survey were carried out.

In this chapter, some coincident and divergent findings in terms of the key research questions (Appendix 1-1) are made, and some points need to be considered from different sides before conclusions are drawn and recommendations can be given. In that context, those interviewed (⇨4) are referred to as interviewees while participants in the questionnaire survey (⇨5) are referred to as respondents.

6.1 Coincident and Divergent Findings

There are many points where interviewees and respondents hold the same view and some others where they disagree. In this section, the results are compiled in tables alongside the key research questions and discussed subsequently. To what degree interviewees and respondents support individual statements is shown in tables 6-1 to 6-5. Within these tables, numbers ❶, ②, ③ and ④ relate to the different interviewees (⇨4.2.1), while Q1, Q2, Q3,… relate to the questions from the questionnaire in Appendix 5-3.

Key Research Question 1: What is the demand for training and certification in heritage interpretation and ESD in German protected areas, and how can it be addressed?				
Statement	Results Ch.4		Results Ch.5	
Visitor services are very relevant and the requirements increase.	❶②	◎	Q2, 3	◎
More training courses would be welcome.	❶②④	◎	Q22	◎
Courses could be completed by peer review or exchange.	❶③	◎	Q16, 22	◎
Training is more important in personal than in non-personal services.			Q16	◎
The demand for training in ESD is slightly higher than in interpretation.			Q9	◎

It is important that training is taking place on-site and not in other areas.	❶②	◎	Q17	◎

Table 6-1 Comparison of data analysis results in terms of key research question 1 (◎ yes, ⊙ unclear, ○ no)

Visitor services are very relevant in German protected areas, and the requirements increase. More training courses would be welcome and could be completed by peer review or exchange. Training is seen to be more important in personal than in non-personal services, and the demand for training in ESD is slightly higher than the demand for training in interpretation. It is seen to be important that training takes place out of season, on-site and in the areas where the participants are actually working. Opinions diverge on whether or not all participants of one course should belong to the same protected area category. Although it was found that such separation is not really necessary (Leng 2009, Ludwig 2012c), there seem to be some doubts from the respondents.

Key Research Question 2: What are the issues relating to uptake of training and standards in interpretation and ESD in German protected areas?				
Statement	Results Ch.4		Results Ch.5	
Interpretation is barely communicated in- / outside partner organisations.	❶②③④	◎	Q15	◎
The interpretive approach is not known well enough.	④	◎	Q13, 21	◎
There is insufficient funding.	③	◎	Q19, 22	◎
Staff have too much to do – and no time.	❶②	◎	Q15, 21	◎
Some protected areas have no ranger service.	❶	◎	Q4	◎
Employees have to force themselves to strike new paths.	❶②③	◎	Q21	⊙
Members of staff are often not very open to training.	❶②④	◎	Q11, 21	○
National parks have more staff than biosphere reserves or nature parks.	❶	◎	Q4	◎
Conditions in the individual *Bundesländer* are very different.	❶③	◎		◎
The average age of members of staff in this field is too high.	❶	◎	Q11	○
Self-awareness of staff must be strengthened.	②④	◎	Q5	◎
The ranger service must be strengthened.	❶②	◎	Q22	◎
Awards must be in accordance with other certificates.	③	◎	Q12	◎

Table 6-2 Comparison of data analysis results in terms of key research question 2 (◎ yes, ⊙ unclear, ○ no)

The literature review has shown that heritage interpretation in German protected areas started very late. There was an opportunity for three nationwide organisations to develop common standards because the field of interpretation is still not very developed but for several reasons, the implementation of these standards is problematic. It was noted consistently that, up to now, the ParcInterp training standards were rarely communicated inside and outside the partner organisations. The interpretive approach is not known well enough in the protected areas. Besides a lack of funding, one fundamental hurdle is that staff have too many tasks and not enough time. Some protected areas have no ranger service, national parks have generally more staff than biosphere reserves or nature parks, and the conditions in individual *Bundesländer* are very different. It is seen as necessary that self-awareness of staff and especially the ranger service are strengthened. Any awards should be in accordance with other certificates. The in-depth interviews and the questionnaire survey brought divergent results in terms of the openness of protected area staff for training and their willingness to strike new paths. In some areas one critical point might be the average age of the employees (Table 4-9).

Key Research Question 3: What training and programmes for interpretation and non-formal ESD are currently delivered in Germany, and how does ParcInterp relate to these in terms of standards and delivery of training?				
Statement	Results Ch.4		Results Ch.5	
ZNL (Certified Nature and Landscape Guide)	❶③	◎	Q14	◎
GNL (Approved Nature and Landscape Carer)	❶③	◎		
TOPAS (mentioned twice – but was the forerunner of ParcInterp)			Q14	◎

Table 6-3 Comparison of data analysis results in terms of key research question 3 (◎ yes, ⊙ unclear, ○ no)

Beside ParcInterp, there are no other programmes combining interpretation and ESD. While some respondents mention TOPAS (the forerunner of ParcInterp), interviewees affirm the need to incorporate ParcInterp into the vocational training for GNL, which should be completed

by all rangers. ParcInterp standards for interpretive guiding (including the work with ESD key phenomena) were already incorporated into the exam regulations for ZNL (⇨2.4).

Key Research Question 4: To what extent do the ParcInterp certificate and standards address the demands from German protected areas?				
Statement	Results Ch.4		Results Ch.5	
The ParcInterp training system is applicable to the protected areas.	❶②	◎	Q18	◎
There is a strong demand to run more courses.	❶②④	◎	Q5, 22	◎
The ParcInterp qualities have a high value.	❶②		Q6	◎
Certificates help to improve quality and strengthen self-awareness.	②	◎	Q10	⊙
ESD is currently very important – more than heritage interpretation.			Q8	◎
ESD is more situated than heritage interpretation.	③④	◎	Q8	◎
ESD is not yet deeply rooted.	④	◎	Q7	◎
It is a good idea to connect ESD and heritage interpretation in training.			Q10	◎

Table 6-4 Comparison of data analysis results in terms of key research question 4 (◎ yes, ⊙ unclear, ○ no)

The ParcInterp training system is generally applicable to the protected areas, the ParcInterp qualities have a high value, and there is a strong demand to run more courses. It is seen as a good idea to connect ESD and heritage interpretation in training, while statements are not that clear in terms of the role of certificates in improving the quality and strengthening the self-awareness of staff. ESD is not yet seen as deeply rooted in German protected areas, but seems to be more situated than interpretation.

Key Research Question 5: Is the ParcInterp system suitable for effective interpretation management and practice in German protected areas?				
Statement	Results Ch.4		Results Ch.5	
The ParcInterp system is generally applicable to protected areas.	❶②	◎	Q18	◎
Courses shall not take place during the season.	❶	⊙	Q17	◎
Courses shall take place where the employees work.	❶③	◎	Q17	◎

Courses shall relate to the conditions on site.	②	◎	Q6, 17	◎
More and less experienced participants should be mixed.	④	◎		
The duration of ParcInterp training is appropriate and practicable.	❶②④	◎	Q19	○
Peer coaching for permanent viability should be supported.	③	◎	Q16, 19	⊙
Exchange with other protected areas should be encouraged.	③④	◎	Q22	◎
More partners should be involved.	❶②③④	◎	Q22	⊙
The benefit for the areas should be shown through good examples.	③	◎	Q22	◎
External financial means should be obtained.	③	◎	Q22	◎

Table 6-5 Comparison of data analysis results in terms of key research question 5 (◎ yes, ⊙ unclear, ○ no)

In terms of the suitability of the ParcInterp system some indications are that courses should take place where the employees work and relate to the conditions on site. More and less experienced participants should be integrated and an exchange with other protected areas should be encouraged. The benefit for the areas should be shown through good examples and external financial support should be obtained. There are different opinions about the duration of ParcInterp training, the role of peer coaching and whether or not more partner organisations should be involved. According to Ludwig (2012a), demands resulting from these points seem to be feasible within the current ParcInterp system. However, because of the very high proportion of activities in the courses that are based outdoors, the widely-made request that courses should not take place during the season seems to remain as a challenge (⇨7.2).

6.2 Points of Discussion

6.2.1 Uncertain Roles of Partners

Europarc is seen in a leading position by most respondents and by all interviewees – except the representative of Europarc. There is no clear statement whether or not (and if yes, which) further partner organisations should be involved, while the ranger service in one

Bundesland (as member of Europarc and of the German Ranger Association) underlined its preference for an individual solution (⇨5.2.2.3).

6.2.2 Different Views from Different Management Levels

Although many subjects are considered in a simliar way by most interviewees and respondents, there are indications that critical questions are answered differently on different levels. At least three levels can be distinguished:

- Representatives of partner organisations;
- Park managers;
- Employees in a working field affected by ParcInterp standards.

Hockings *et al.* (2005) demonstrated that elected officials and field staff tend to give more value to interpretation than executive and middle management. Different positions rely on different perceptions (Kopylova and Danilina 2011:18). Even if it seems that there are simple solutions, this might not always be the case. Considering those different perceptions is critical for a diffusion of innovations (Rogers 2003).

6.2.3 Strong Focus on Personal Services

There is a significant focus by respondents on training for personal services, while non-personal services lag behind, and further qualifications in terms of invitations to tender received the lowest rating. One reason might be that there is, in general, a low awareness in terms of the demands of compiling text and designing exhibits (Megerle 2003). On the other hand, respondents lacking a ranger service tended not to return questionnaires or answer questions (Appendix 5-6), although the ranger service is often only responsible for non-personal services and not for (wayside) exhibits (Lütkepohl 2013). This could mean

that overworked park managers, who would have to work with several departments if they take seriously the implementation of ParcInterp, make life easier by just forwarding the package to their ranger units, even if these units have no chance to meet or implement some of the standards.

Despite this, strong personal services could fulfill the requirements of ESD-oriented interpretation (Appendix 2-11) such as facilitating participation more than non-personal services, if they had more staff and (therefore) time.

6.2.4 Confined Conception of ESD

Although the scientific support for ParcInterp stated that there is a strong aversion among employees and especially rangers to ESD (Molitor 2012), according to this study, ESD is seen by the interviewees as carrying on longer than the UN Decade and, by the respondents, currently, as more important than interpretation.

But the survey also shows that, within ESD, the principal idea of equal global opportunities seems to be less relevant than it should be - even in UNESCO biosphere reserves. This finding is supported by Leng 2009 and Marwege 2012: Employees in protected areas often seem to describe their educational work as ESD, even if essential points are lacking. This could explain why employees in training courses are not satisfied by feeling really challenged by something they thought they already knew. One reason for the fact that institutions which are highly dedicated to the protection of natural assets have these challenges might be the strong focus on the idea of *Gestaltungskompetenz* (shaping competence) (de Haan and Harenberg 1999) in German ESD, which was brought up in the context of formal education. Despite starting well (Ludwig 2006), protected areas have so far failed to develop their own approaches to ESD, building on the recommendations of UNESCO.

Against this background, and considering the weak position of interpretation in Germany, the combination of two value-oriented concepts might overburden the participants in the training (Molitor 2012); this was a key point which was not realised at the beginning (Ludwig 2012c).

6.2.5 Different Assessment of Staff-Willingness – but Common Appreciation of Motivation

There was a significant difference in the assessments of interviewees and respondents in terms of the willingness of staff. The interviewees mentioned the existence of “trodden paths”, familiar methods, as one critical issue and noted motivation as the most important factor in respect of implementing ParcInterp standards. This latter point was supported by the respondents who highlighted praise and recognition as the most important attributes for strengthening staff, even if they presented a different opinion regarding the openness of staff to training. Beyond these differences, motivation seems to be extremely necessary.

Self-motivation and motivation of others to take action is also part of *Gestaltungskompetenz* (Appendix 2-7).

7. Conclusions and Recommendations

There is a need to clarify the roles and responsibilities of the partner organisations. According to the expectations of most interviewees and respondents (⇨6.2.1), it is recommended that Europarc Germany takes the leading role.

Building up on the joint statement of the project partners (Appendix 2-4) a strategic implementation plan, e.g. based on a comprehensive Gantt chart, should be developed in order to illustrate the levels of importance and urgency, and define tasks and requirements in terms of time and budget (including staff).

The main issues that were identified (⇨4.2.2 and 5.2.1) are situated in the areas of:

1. Funding;
2. Staffing (including lack of time);
3. Communication (internal and with stakeholders);
4. Motivation.

Funding and staffing belong to resource considerations and because their supply is subject to individual ministries of the 16 *Bundesländer*, the partner associations and the park administrations (including rangers) have no direct influence. Without active proponents introducing ParcInterp to ministries based on a considered implementation strategy, there may be no chance of lasting implementation of the programme.

Communication and motivation on the other hand might have a leverage effect in terms of improving staff and acquiring funding and are not necessarily associated with high costs. It

is therefore recommended that communication and motivation should be focussed on first, in order to resolve funding and staffing issues at a later date.

When looking at communication and motivation, using the internet is hardly promising. The ParcInterp forum at www.parcinterp.de which was set up to answer questions and discuss problems within separated chatrooms on different levels (partner organisations, park administrations, staff) is barely used, administrations still insist on submissions on paper and the wish to carry out an online survey for this study was rejected (⇨5.1.1).

Personal contact seems to be critical, but the only 'ambassadors' for the programme are the ParcInterp trainers. Although requirements for ParcInterp trainers (Appendix 2-25) are higher than in other programmes (e.g. NAI 2013), the trainers are not qualified and, as external contractors also, are not authorised to promote interpretation to various stakeholders. The situation calls for other solutions.

Stakeholders are also difficult to classify, not only because they are connected to diverse structures. For example, it is not possible to treat 'ministries of the *Bundesländer*' as one group in an influence-interest-matrix, because those ministries are established differently and focused on very different matters. The same applies to park administrations or associations that are more or less active in individual parks (⇨5.2.2). This calls for tailor-made strategies for each protected area.

7.1 Supporting Communication and Motivation through Interpretive Agents

When it comes to spreading new ideas, the notion of change agents (Rogers 2003, first published in 1962) was introduced to the educational field (Havelock 1973). It was recently

revived in Germany in the context of transition to sustainability (WBGU 2011) and of ESD (Stoltenberg, Benoist, and Kosler 2013, ⇨2.2.2).

Change agents (*Pioniere des Wandels* in WBGU 2011) "provide a communication link between a resource system with some kind of expertise and a client system. One main role of the change agent is to facilitate the flow of innovations from a change agency to an audience of clients. For this type of communication to be effective, the innovations must be selected to match clients' needs. […] Change agents usually possess a high degree of expertise regarding the innovations that are being diffused. […] As a bridge between two differing systems, the change agent is a marginal figure with one foot in each of two worlds" (Rogers 2003:368).

Rogers (2003) connects change agents to different occupations. Havelock and Zlotolow (1995) follow Roger's idea about the seven stages of introducing an innovation (Appendix 2-9). They suggest seven terms for those stages, forming the acronym CREATER (Figure 7-1).

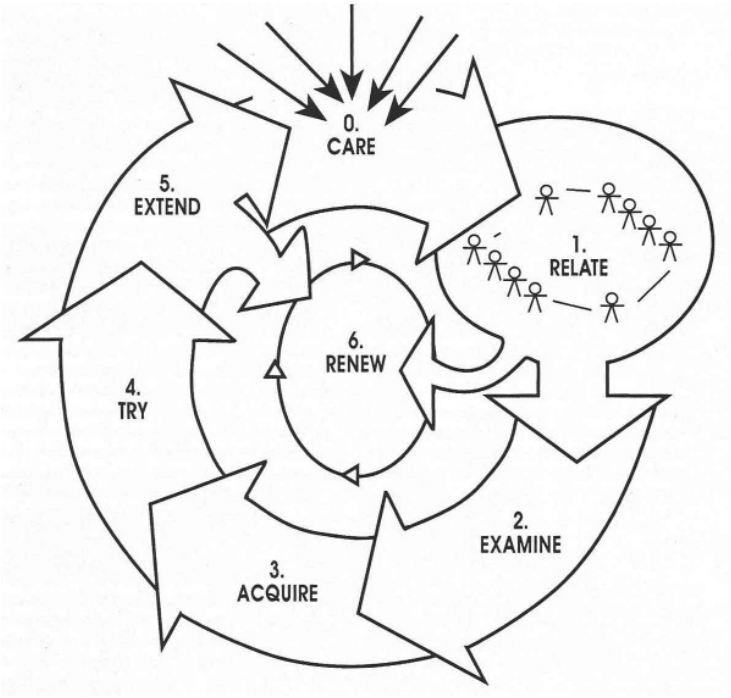

Figure 7-1 Stages of planned change (Havelock and Zlotolow 1995:11)

Further on, and following the circle in Figure 7-1 they define change agents as:

- Catalysts;
- Solution givers;
- Process helpers;
- Resource linkers.

While Havelock and Zlotolow (1995:7) finally claim that "social relating skills […] are in every case paramount", because "successful change agents […] are people movers", Fullan (2011:152-154) underlines within his "change leader framework", that "practice drives theory".

Against this background, and considering Havelock and Havelock (1973), there is a case for a training programme for interpretive agents, focusing on communication and motivation closely related to practice and, in that way, preparing the field for implementing ParcInterp.

To transfer the approach, the roles of change agents must be reviewed and adapted where necessary, and tasks must be defined. Table 7-1 gives a first overview of some potential stakeholders and potential skills of interpretive agents in ParcInterp.

Stakeholders	Skills
• Ministries of the 16 *Bundesländer* • Federal Agency for Nature Conservation (BfN) • Members of the three partner associations • Boards/members of surrounding associations • Park managers of Europarc areas • Park managers of VDN nature parks • Staff of all protected areas (including rangers) • BIBB managers (responsible for GNL) • BANU managers (responsible for ZNL) • German UNESCO commission	• Basic interpretive skills • Stakeholder-involvement skills • Ability to gain knowledge of all stakeholders • Ability to gain access to all stakeholders • Ability to set up networks • Ability to empathize • Ability to mediate • Ability to value and strengthen existing qualities • Ability to encourage and to support peer activities

Table 7-1 Interpretive agents – stakeholders and skills

The tools of dissemination must be used carefully and responsibly. Not every interpreter will be able to become an interpretive agent. Stakeholder communication traversing different fields and levels is always complex, and a "change agent is necessarily subject to role conflict" (Rogers 2003:374). But if participants are selected who are able to take those different roles, a training programme for interpretive agents might be effective, combining

- ESD-oriented personal interpretation;
- Intervention techniques on communication and motivation for interpretation.

Starting points for such a programme can be found in interpretation as well as in ESD. 'Relate', as key stage of innovation, is the first principle of interpretation (Tilden 1957). Within the 5-M model, Brochu (2003) suggests a comprehensive view on interpretive planning, to "consider the many variables surrounding an interpretive opportunity" (Brochu 2003:3), and Brochu and Merriman (2011) show, how interpretive planning skills can be used to involve people into heritage-related processes.

In German ESD, the importance of innovation transfer in sustainable learning landscapes with a broad variety of stakeholders is discussed (Schröder, Huck, and de Haan 2011). "Sustainable learning landscapes require a broader understanding of learning: Knowledge means being able to move something" (de Haan 2009:15➲30). The approach of "learning landscapes" is seen as especially relevant for the 15 German UNESCO biosphere reserves (Leng 2009, Marwege 2012). Interpretive agents could be trained to convince rangers as well as farmers, and businessmen as well as secretaries of state of the benefits of ParcInterp within learning landscapes.

Looking at the ParcInterp programme, it might make sense to "sustain simplexity" (Fullan 2011:149) by focusing on communicating the four ParcInterp qualities (⇨2.4), robustly

highlighting their benefit for the individual stakeholder. Aiming to explain the whole system of standards and criteria, training and competences would be more daunting than stimulating.

In terms of motivation, one task for interpretive agents could be to clear off some of the barriers that were brought up with this study, such as reluctance, 'trodden paths' or 'lack of fire'. Strengthening staff - especially rangers - was mentioned as an important move in interviews and questionnaires (Appendix 2-3). Besides training, individual measurements to achieve that might be:

- collect best practice examples elaborated by staff;
- produce a film where staff members present such examples;
- bring people together for peer-review activities;
- collect permanent staff for re-certification of ZNL (⇨5.2.2.4);
- achieve and announce approval from outside.

All measurements brought up by interpretive agents should be suggested and developed in a close contact with the groups targetted to benefit.

Research in terms of communication and motivation could suggest guidance to help decision makers to make more effective use of funds as well as to develop proposals for applying for additional funds.

7.2 Reviewing the ParcInterp System

Most recommendations resulting from Chapters 4 and 5 that have not primarily to do with funding and staffing, communication and motivation, might be used quite easily to improve the system. But there are some issues left, where recommendations emerging from

research seem to be in contradiction to the claim expressed in the ParcInterp material.

Table 7-2 contains some suggestions, how these concerns might be solved.

Issue	Recommendation
Not enough time	
Although the duration of training is seen to be appropriate, there were several indications that staff have not enough time. It would not help if the courses covered all the content, but employees could not cope with the volume.	It could be tested to see if the five day training periods could be broken up in a modular system with clearly defined learning objectives. To start with a module on interpretive guiding covering the content of ZNL could be one step in that direction.
Strong focus on personal services	
While ParcInterp's intention is to combine personal and non-personal interpretation, park administrations tend to employ different members of staff in these two areas. They also seem to see little need for improvement in non-personal services.	Personal interpreters might be trained in taking a supportive role in non-personal interpretation in the beginning. Examples of improvements of existing panel texts could help to persuade park managers of the need to focus on non-personal services, too.
Confined conception of ESD	
There is a higher demand for ESD than for interpretation, and the relevance of ESD is seen more at the level of partners / administrations than at the level of the employees. The general understanding of ESD does not really cover the aspect of global justice.	Building on the results of ParcInterp, a locally-generated idea of non-formal ESD in protected areas aligned to interpretation could be developed. But ParcInterp has shown that ESD can not go much further than using ESD key phenomena in interpretation.
Training during summer season	
It is important for partners / managers that courses do not take place during the summer season, while ParcInterp courses are always run outdoors, and park managers see one essential quality of the training in dealing with original sites and objects.	The course programme might be checked for modules that could also be run indoors and out of season as well. This seems to be possible in terms of interpretive writing, live interpretation, school programmes, or topics in planning and evaluation.

Table 7-2 ParcInterp issues beyond funding and staffing, communication and motivation

7.3 Dissemination and Exploitation

- Results of this study will be delivered to the ParcInterp partner organisations.
- German summaries will be sent to all protected areas and placed online for free.
- The approach of interpretive agents will be suggested for funding proposals.

The results will also be offered to other German institutions intending to work on certification systems for visitor services or ESD in protected areas, museums, zoos, or botanical

gardens. Furthermore, they will be spread among the members of Interpret Europe in order to find partners for the further development of individual findings.

7.4 Further Research

The following questions resulted from this study and might be subject to further research:

- What relevance does ESD have for the development of the interpretation profession?
- Who might be ParcInterp stakeholders, and what form might cooperations take?
- Should German nature and geoparks be integrated into the ParcInterp system?
- Does it make sense to implement a system of interpretive agents?
- What competences do interpretive agents need and how can they be learnt?
- How different are the views on the various levels within park administrations?
- How far are the skills taught in ParcInterp courses applied in the participants' daily work?
- To what degree can improvements in visitor services be proven?
- What demands do visitors have that are not covered by ParcInterp?

In terms of the implementation of ParcInterp, it would also be helpful to structure and complete existing research findings in terms of the qualities of ESD-oriented heritage interpretation.

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List of German Quotations

➲1 - Hardenberg (1989:104-105): „Ein Verkündiger der Natur zu sein, ist ein schönes und heiliges Amt [...] Nicht der bloße Umfang und Zusammenhang der Kenntnisse, nicht die Gabe, diese Kenntnisse [...] an bekannte Begriffe und Erfahrungen anzuknüpfen und die [...] fremd klingenden Worte mit gewöhnlichen Ausdrücken zu vertauschen, selbst nicht die Geschicklichkeit [...], die Naturerscheinungen in [...] treffend beleuchtete Gemälde zu ordnen, [...] alles dies macht noch nicht das echte Erfordernis eines Naturkündigers aus [...] Wer in ihr alles sucht [...] der wird nur den für seinen Lehrer und für den Vertrauten der Natur erkennen, der mit Andacht und Glauben von ihr spricht“.

➲2 - Stern, H. (1978:6): „Im deutschen Sprachraum steht dem nichts auch nur annähernd Vergleichbares gegenüber. Es gibt dafür noch nicht einmal ein den vollen Inhalt wiedergebendes deutsches Wort“.

➲3 - Trommer, G. (1991:14): „Naturinterpretation - die Symbiose von Naturerlebnispädagogik und Didaktik der Ökologie“

➲4 - Bauszus (2004:23): „einen wichtigen Grundstein für die Integration des Konzeptes in Deutschland“

➲5 - Zoepp, S. (2005:46): „Zentrum der Natur- und Kulturinterpretation in Deutschland“ / Hellwig, B. (2007:14): „Mittelpunkt für Natur- und Kulturinterpretation in Deutschland“

➲6 - Detel (2007:27): „Das Interpretationsdreieck ist das wichtigste Modell der Interpretation“.

➲7 - Hermes (2010:57): „Das Modell wird nur in Deutschland verwendet und findet sich so explizit in den amerikanischen Grundsätzen nicht wieder. Daraus lässt sich schließen, dass eine Einheitlichkeit bezüglich der Kriterien in Deutschland herrscht.“

➲8 - Hermes (2010:46): „Als wesentliche Kriterien auf der Methodenebene nennen alle Experten die Kernelemente des Interpretationsdreieckes. Dabei kommt der Leitidee, die das Interpretationsdreieck im Inneren zusammenhält, eine tragende Rolle zu. Sie übernimmt als Leitthema die Funktion des roten Fadens.“

➲9 - Zoepp, S. (2005:47): „Die Gefahr der Instrumentalisierung von Interpretation als reines Kommunikationskonzept, bei dem der nach Tilden inhärente Schutzgedanke von Natur und Kultur außer Acht gelassen wird, ist in solchen Fällen groß.“

➲10 - Gerd Michelsen (2006:25): „Bildungskonzept, das den in den PISA-Studien festgestellten Herausforderungen gerecht wird.“

➲11 - Meyer-Abich (2001:303): „Gleichrangigkeit dreier nebengeordneter Ziele, sondern die des Ganzen (der Natur) mit einem Teil des Ganzen (der Gesellschaft) und obendrein mit einem Teil dieses Teils (der Wirtschaft)“

➲12 - BMF (2012): „Eine Umsetzung dieser Vorstellung heißt, das Modell der ökologischen und sozialen Marktwirtschaft überall auf der Welt zum Grundgerüst einer nachhaltigen Entwicklung werden zu lassen.“

➲13 - Deutsche Bundesregierung (2012:14): „ein wesentlicher Wettbewerbsvorteil.“

➲14 - Münch (2009:30): „Das alte Paradigma, in dem Bildung als Kulturgut und Fachwissen verstanden wurde, wird nun vollständig durch ein neues, ökonomistisches Leitbild abgelöst.“ (“The old paradigm which understood education as cultural asset and in-depth knowledge is completely replaced by a new economistic concept.”)

➲15 - Liessmann (2006:86): „Die Schulen, wie immer sie organisiert sein mögen und wie immer das Milieu aussieht, in dem sie agieren, werden damit zu Trainingstätten für die heimlichen Lehrpläne der OECD-Ideologen.“
(“The schools, however they may be organized, and however the environment looks like in which they operate, become training sites for the secret curricula of OECD ideologues.”)

➲16 - Zeuner *et al.* (2005:12): „beziehen sich primär auf Fähigkeiten, die beruflich verwertbar sind und auch instrumentalisiert werden können.“
(“…refer primarily to skills that are professionally usable and can also be instrumentalised”).

➲17 - de Haan (2009:14): „zu ermöglichen, sich moralisch verhalten zu können (nicht: müssen, denn das würde dem Überwältigungsverbot widersprechen).“

➲18 - Jung (2007:87): „moralische Überforderung des Individuums“

➲19 - Ludwig (2006:3): „sich als Teil einer erhaltenswerten Natur wahrnehmen können“
„sich aus der Abhängigkeit von materiellen Gütern befreien können“

➲20 - Leng (2009:183): „einer generellen Bereitschaft, eine BNE zunehmend in die Bildungsarbeit der Großschutzgebiete zu integrieren bzw. diese daran auszurichten […]. Nach eigener Interpretation leisten die meisten Großschutzgebiete mit ihrer Bildungsarbeit auch durchaus einen Beitrag zu einer nachhaltigen Entwicklung und deuten ihre Bildungsarbeit auch bereits als BNE“

➲21 - Molitor (2012:159): „die Ranger das Thema BNE nicht als lebendig und inspirierend, sondern als ‚trocken‘ erlebten. Sie nahmen pädagogische Termini als Fremdworte und eingesetzte Begriffe als unverständlich, kompliziert und abstrakt wahr. Es zeigte sich, dass die Teilnehmer aus allen Schutzgebieten diese Wahrnehmung teilten“

➲22 - Europarc Deutschland (2008b:8): „Verbesserung der Bildungsangebote als Beitrag zur UN-Dekade ‚Bildung für eine nachhaltige Entwicklung‘“

➲23 - Marwege (2012:42): „sehr gute Voraussetzungen [...] eine koordinierende Funktion einer ‚Lernlandschaft für nachhaltige Entwicklung‘ zu übernehmen. Eine wünschenswerte entsprechende Umsetzung [...] ist allerdings nur teilweise festzustellen“

➲24 - Molitor (2011:2): „viele der didaktischen Prinzipien einer Bildung für nachhaltige Entwicklung [...] insbesondere von den personalen Formen der Interpretation eingeschlossen“

➲25 - Leng (2009:251): „Selbstanspruch, lernende Institutionen zu werden“

➲26 - Europarc Deutschland (2008b:58): „Bei der Öffentlichkeitsarbeit und Umweltbildung in den Schutzgebieten kommt den Rangern […] eine Schlüsselrolle zu.“

➲27 - Erhard (2010:51): „Es gibt in Deutschland kein einheitliches Berufsbild des Rangers.“

➲28 - Leng (2009:236): „In der Bildungsarbeit in Großschutzgebieten ist die Person des Bildungsverantwortlichen von grundlegender Bedeutung.“

➲29 - Mayer (2009:38): „Repräsentant einer Gruppe“

➲30 - de Haan (2009:15): „Nachhaltige Bildungslandschaften machen ein erweitertes Verständnis von Lernen erforderlich: Wissen heißt, etwas in Gang setzen können.“

Appendix

Key Research Questions

1. What is the demand for training and certification in heritage interpretation and ESD in German protected areas, and how can it be addressed?
2. What are the issues relating to uptake of training and standards in interpretation and ESD in German protected areas?
3. What training and programmes for interpretation and non-formal ESD are currently delivered in Germany, and how does ParcInterp relate to these in terms of standards and delivery of training?
4. To what extent do the ParcInterp certificate and standards address the demands from German protected areas?
5. Is the ParcInterp system suitable for effective interpretation management and practice in German protected areas?

These questions are according to the research proposal.

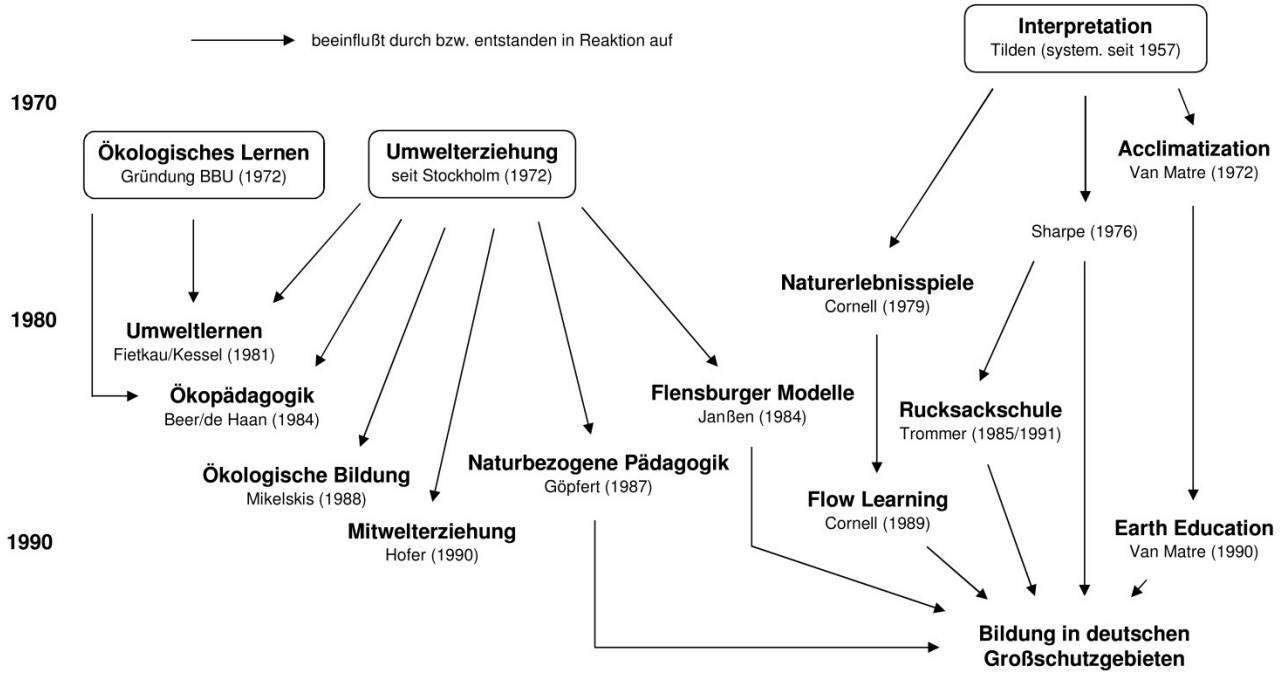
Principles of Interpretation

1. Any interpretation that does not somehow relate what is being displayed or described to something within the personality or experience of the visitor will be sterile.
2. Information, as such, is not interpretation. Interpretation is revelation based upon information. But they are entirely different things. However, all interpretation includes information.
3. Interpretation is an art, which combines many arts, whether the materials presented are scientific, historical or architectural. Any art is in some degree teachable.
4. The chief aim of interpretation is not instruction, but provocation.
5. Interpretation should aim to present a whole rather than a part, and must address itself to the whole man rather than any phase.
6. Interpretation addressed to children (say, up to the age of twelve) should not be a dilution of the presentation to adults, but should follow a fundamentally different approach. To be at its best it will require a separate program.

Tilden (1957:9)

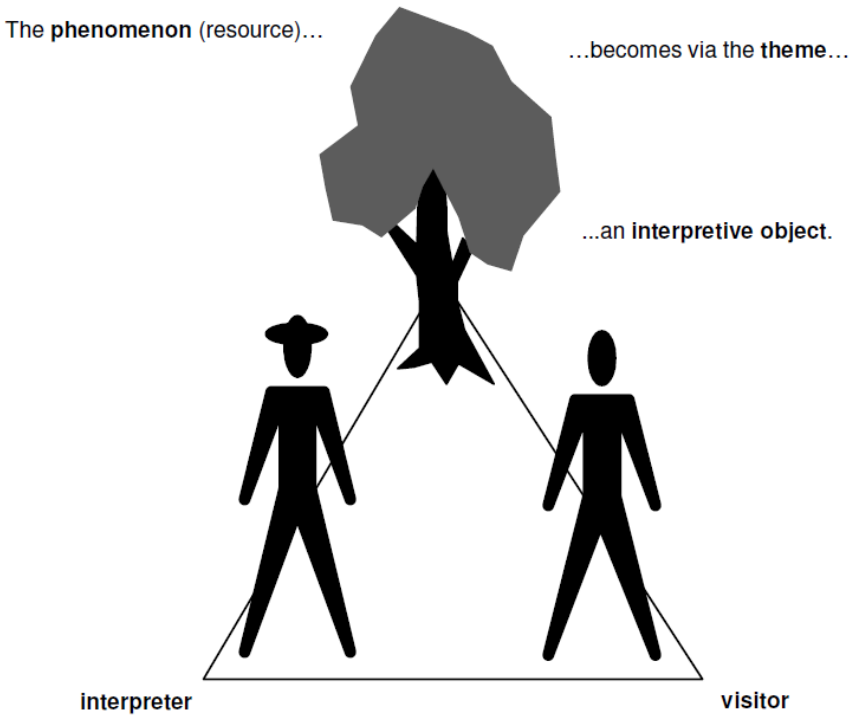
Strömungen der Natur- und Umweltbildung von 1972 bis 1990 und ihr Einfluss auf die Bildungsarbeit in deutschen Großschutzgebieten
[Trends of Natural and Environmental Education from 1972 to 1990 and their Influence on the Educational Work in German Protected Areas]

Original German Version

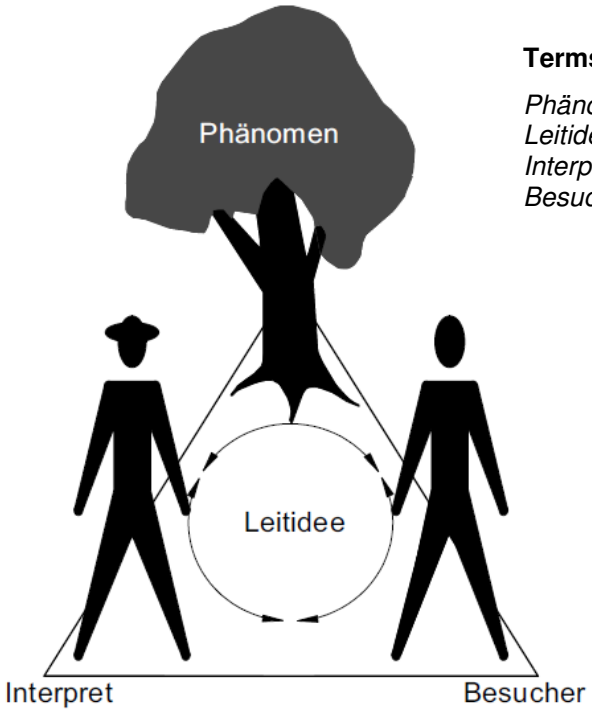


Ludwig (1995)

Interpretive Triangle



Ludwig (2003a:12)



Terms:

Phänomen	Phenomenon
Leitidee	Theme
Interpret	Interpreter
Besucher	Visitor

Bauszus (2004:27)

Joint Statement on the Continuation of the Partner Project ParcInterp

On 20.11.08, EUROPARC Germany, the German Ranger Association and the Association for Natural and Environmental Education (ANU) declared their wish to improve the visitor-oriented informational and educational work relating to National Natural Landscapes. The scheme would follow the concept of heritage interpretation and adapt it to the needs of Education for Sustainable Development (ESD) in order to achieve a high, permanently-assured, level of attainment for all staff employed in that field. This should have an exemplary role and influence related institutions at national and international level.

This statement was preceded by the development of a training course, which was inspired in 1995 by the Interpretive Development Program of the U.S. National Park Service, adapted to European conditions in 2003 as part of the EU project TOPAS (Training of Protected Area Staff) in the Harz National Park and then restructured and evaluated in 2004 on behalf of EUROPARC Germany and the Federal Agency for Nature Conservation (BfN). Since then it has been conducted as a three-part certification course (EUROPARC certificate) in several *Bundesländer*.

In consideration of this development and on the basis of the agreement in 2008 of the partner organisations, the German Federal Environmental Foundation (DBU) approved funding of the ParcInterp Project on 26.11.09. This paved the way for the improvements that have been adopted.

Following the cooperation agreement signed by the partners in spring 2010, the aim was to develop, for ESD-oriented heritage interpretation, quality standards which are transferable to all protected areas. To meet this aim, one initiative was the preparation of the Basic Course Heritage Interpretation, dealing with personal interpretation, non-personal interpretation and interpretive planning, all of which have been carried out in a national park, a biosphere reserve and a nature park. The project was scientifically monitored by the University for Sustainable Development (HNE - Prof. Molitor) with a view to meeting four objectives:

- verifying the impact of heritage interpretation;
- interweaving interpretation and Education for Sustainable Development;
- standardizing ESD-oriented interpretation in protected areas;
- implementing the quality standards in the National Natural Landscapes.

At the end of the funding period, the three partner organisations declared their wish to continue the cooperation in the sense of the project, in line, particularly, with their opportunities and their spheres of influence:

1. to disseminate the quality standards and criteria of ESD-oriented heritage interpretation developed in the project as well as the associated terminology within and outside their own organisation;
2. to support the inclusion of the objectives derived from the standards, criteria and terminology into the framework curriculum for the vocational training profession called Approved Nature and Landscape Carer;
3. to seek funds to allow the operation of further training courses as well as the consolidation and further development of ParcInterp and, thus, the intended effects at a national and an international level.

Kassel, 18. August 2011

Annette Dieckmann
President
Association for Natural and Environmental Education (ANU)

Frank Grütz
President
German Ranger Association

Guido Puhlmann
President
EUROPARC Germany

Didactic Principles of ParcInterp Training Courses

ParcInterp trainers are expected to

- follow the principles of heritage interpretation,
- design learning holistically (with head, heart and hand) and in various forms,
- respect the needs of the individual learner,
- include experiences from the learner's own work and life,
- initiate and promote new learning experiences and inspire the desire for learning,
- strengthen personal responsibility and the readiness to give and to receive critiques,
- support the cooperation of learners with each other and with other players,
- use pin boards, flip charts, moderation cards, markers and other media in a professional way,
- integrate content spontaneously from a computer or the internet using a data projector,
- develop ideas together with learners using a computer and a data projector,
- first demonstrate all methods learners will acquire,
- allow cooperative development of content in realistic situations,
- provide space to share new experiences and to challenge habitual ways of thinking,
- visualise results in the seminar room - and relate to them during following training sessions.

Ludwig (2012b:13)

Shared Principles: Heritage Interpreters Promoting Sustainability

To increase understanding and implementation of sustainable development practices, a professional interpreter applies the following eleven principles. The first principles apply to all interpretation, while the second set refers to specific focus on the impact interpreters can have with sustainable development.

Practices the fundamentals of high quality interpretation:

1. Develops an in-depth knowledge of the natural or cultural protected area that is being interpreted and applies that knowledge to build a range of relevant messages/compelling stories.
2. Develops an in-depth knowledge of the audience. Recognises the perceptions, experience and knowledge of the audience members and develops the interpretive project with respect for a diversity of audiences, including those with cultural, age and gender differences.
3. Applies effective communication techniques: develops clear objectives, organises each program or product around a central relevant idea or ideas, plans for all aspects of the project and evaluates the success of the interpretive work.
4. Provides the audience members with multiple opportunities to find their own connections between the interpretive messages/interpretive experiences and their daily lives and motivations, thus providing the stimulation to reflect on their lifestyle.
5. Recognises that it is inspiration, passion and emotion that often drive action.
6. Uses specific local sites, applies practical hands-on and active methods and involves multiple senses.

Encourages and models sustainable development practices:

7. Incorporates sustainability principles throughout interpretive programs/projects and develops with audience members ideas for actions that are practical and realistic locally while considering broader or global impacts.
8. Plans all aspects of interpretative events in a way that demonstrate sustainable development principles.
9. Uses materials from suppliers who exhibit responsible actions that support sustainable development.
10. Strengthens the capacity of people to be involved in the decision making process about lifestyle and development.
11. Demonstrates an honest, ethical and clear approach to sustainability.

IRF (2003:4-5)

Sub-Competences of *Gestaltungskompetenz* (Shaping Competence)

1. Competence for perspective-taking:
   Open-minded and creating knowledge from new perspectives
2. Competence for anticipation:
   Forward-looking analysis and evaluation of developments.
3. Competence for interdisciplinary knowledge acquisition:
   Acquiring interdisciplinary knowledge and acting on it
4. Competence for dealing with incomplete and overly complicated information:
   Recognize risks, dangers and uncertainties and be able to evaluate them
5. Competence for cooperation:
   Be able to plan together with others and take action
6. Competence to deal with individual decision-making dilemmas:
   Account for conflicts in goals when reflecting on action strategies
7. Competence for participation:
   Be able to take part in collective decision-making processes
8. Competence for motivation:
   Be able to motivate one's self and others to take action
9. Competence for reflecting on goals:
   Be able to reflect on one's own goals and those of others
10. Competence for moral action:
    Be able to use ideas of justice as a basis for making decisions and taking action
11. Competence for independent action:
    Be able to independently plan and act
12. Competence for supporting others:
    Be able to show empathy towards others

de Haan (2010:320)

Syndromes of Global Change

Utilization Syndromes

Sahel Syndrome
: Overuse of marginal land

Overexploitation Syndrome
: Overexploitation of natural ecosystems

Rural Exodus Syndrome
: Degradation through abandonment of traditional agricultural practices

Dust Bowl Syndrome
: Non-sustainable agro-industrial use of soils and bodies of water

Katanga Syndrome
: Degradation through depletion of non-renewable resources

Mass Tourism Syndrome
: Development and destruction of nature for recreational ends

Scorched Earth Syndrome
: Environmental destruction through war and military action

Development Syndromes

Aral Sea Syndrome
: Damage of landscapes as a result of large-scale projects

Green Revolution Syndrome
: Degradation through the transfer and introduction of inappropriate farming methods

Asian Tiger Syndrome
: Disregard for environmental standards in the course of rapid economic growth

Favela Syndrome
: Socio-ecological degradation through uncontrolled urban growth

Urban Sprawl Syndrome
: Destruction of landscapes through planned expansion of urban infrastructures

Disaster Syndrome
: Singular anthropogenic environmental disasters with long-term impacts

Sink Syndromes

Smokestack Syndrome
: Environmental degradation through large-scale diffusion of long-lived substances

Waste Dumping Syndrome
: Environmental degradation through controlled and uncontrolled disposal of waste

Contaminated Land Syndrome
: Local contamination of environmental assets at industrial locations

Schellnhuber *et al.* (1997:23)

The Sequence of Change Agent Roles

Seven roles can be identified for the change agent in the process of introducing an innovation in a client system.

1. *To develop a need for change*. A change agent often initially helps clients become aware of the need to alter their behavior. In order to initiate the innovation-decision process, the change agent points out new alternatives to existing problems, dramatizes the importance of these problems, and may assure clients that they are capable of confronting these problems. The change agent assesses clients' needs at this stage and also may help to create needs.

2. *To establish an information exchange relationship*. Once a need for change is created, a change agent must develop rapport with his or her clients. The change agent can enhance these relationships with clients by being perceived as credible, competent and trustworthy, and by empathizing with the clients' needs and problems. Clients often must accept the change agent before they will accept the innovations that he or she is promoting. The innovations are judged, in part, on the basis of how the change agent is perceived. […]

3. *To diagnose problems*. The change agent is responsible for analyzing clients' problems in order to determine why existing alternatives do not meet their needs. In arriving at such diagnostic conclusions, the change agent must view the situation empathically from the clients' perspective.

4. *To create an intent to change in the client*. After a change agent explores various avenues of action that clients might take to achieve their goals, the change agent seeks to motivate their interest in the innovation.

5. *To translate an intent into action*. A change agent seeks to influence clients' behavior change in accordance with recommendations based on the clients' needs. Interpersonal network influences from near peers are most important at the persuasion and decision stages in the innovation-decision process […]. The change agent usually can operate only indirectly here, by working with opinion-leaders to activate near-peer networks. Or perhaps the change agent is a peer-educator/opinion leader and can thus encourage interpersonal communication from near peers.

6. *To stabilize adoption and prevent discontinuance*. Change agents may effectively stabilize new behavior through reinforcing messages to clients who have adopted, thus helping to "freeze" the new behavior. This assistance is given when a client is at the implementation or confirmation stage in the innovation-decision process […].

7. *To achieve a terminal relationship*. The end goal of a change agent is to develop self-renewing behavior on the part of clients. The change agent should seek to put himself or herself out of business by developing the clients' ability to be their own change agents. In other words, the change agent seeks to shift the clients from a position of reliance on the change agent to one of self-reliance.

This seven-step sequence of change agent roles is an ideal, and the reality of change agent-client relationships may be quite different.

Quoted in entirety from Rogers (2003:369-370)

Formal, Non-Formal and Informal Learning

Formal learning consists of learning that occurs within an organised and structured context (formal education, in-company training), and that is designed as learning. It may lead to a formal recognition (diploma, certificate). Formal learning is intentional from the learner's perspective

Non-formal learning consists of learning embedded in planned activities that are not explicitly designated as learning, but which contain an important learning element. Non-formal learning is intentional from the learner's point of view.

Informal learning is defined as learning resulting from daily life activities related to work, family, or leisure. It is often referred to as experiential learning and can to a certain degree be understood as accidental learning. It is not structured in terms of learning objectives, learning time and/or learning support. Typically, it does not lead to certification. Informal learning may be intentional but in most cases, it is non-intentional (or 'incidental'/random).

Colardyn, D. and Bjornavold, J. (2004:71)

Quality Criteria for ESD Trainers

ESD multipliers

- see themselves as part of nature, are aware of its importance as a livelihood, and are able to encourage the drawing of appropriate conclusions for work and general life.
- promote the idea of equal opportunities for all people to shape their lives, and are able to encourage the drawing of appropriate conclusions for work and general life.
- see themselves as responsible for future generations, and are able to encourage thinking and action within this context.
- can connect balance ecological, economic and social issues against the background of justice towards other people and future generations.
- can bring sustainable development to life by referring to examples from their own life.
- can balance preservation and change in terms of sustainable decisions.
- are able to question their own attitudes and interact respectfully with others.
- can support learning and facilitate participation, by treating individuals with respect, addressing their needs, and aligning the content of the training to their environment.
- can choose appropriate methods of training for different learning situations to make learning positive and motivating.
- can inform themselves about ESD and the key issues of sustainable development and are able to assess all information in a critical way.

Arbeitsgruppe Außerschulische Bildung (2012:19-24), trans. by Gardner, B.

Stärken- und Schwächen-Analyse bisheriger Bildungsprojekte in Großschutzgebieten
[Strengths and Weaknesses of Education in Protected Areas]

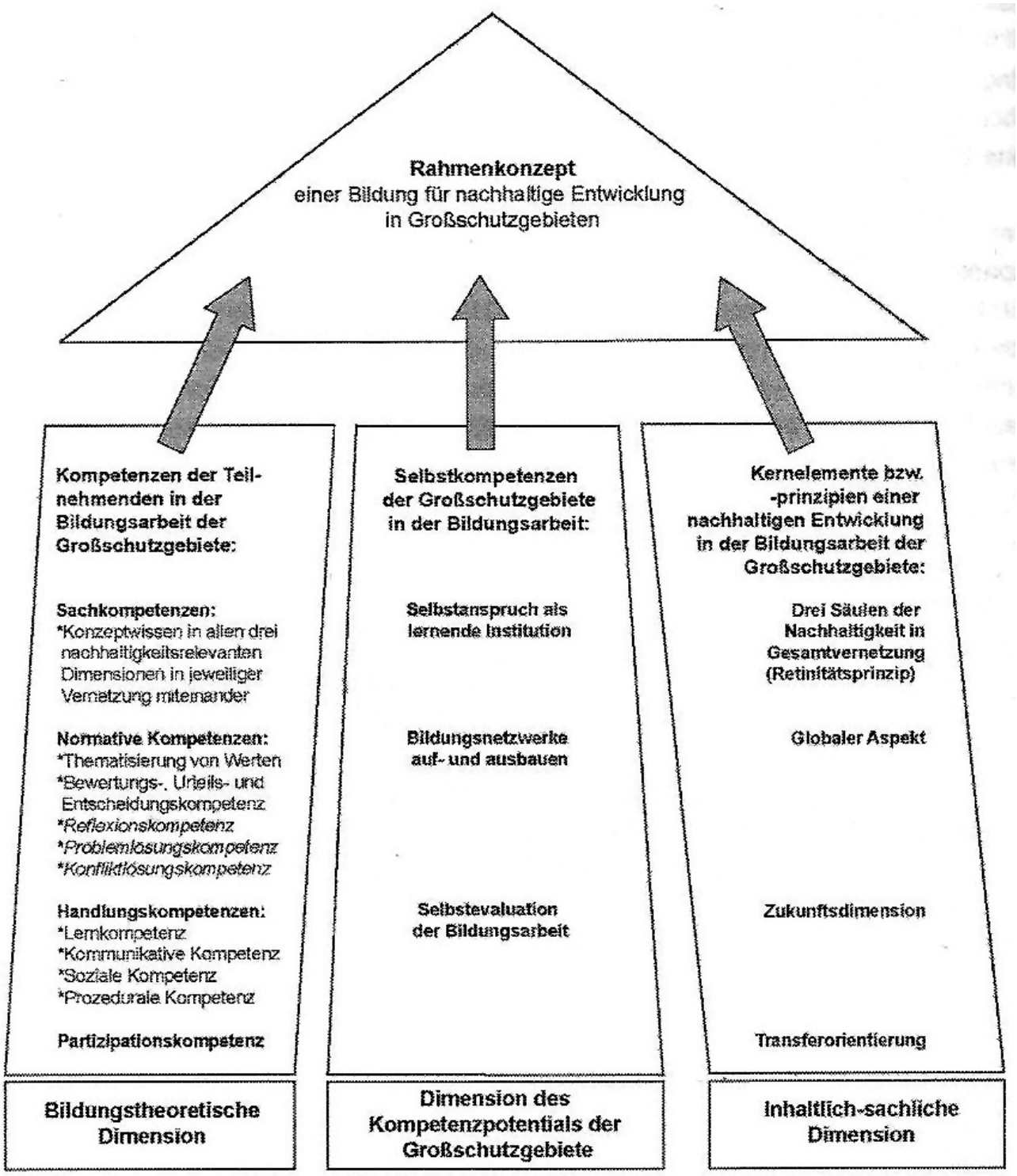
Original German Version

Stärken	Schwächen
Viele Teilnehmer/innen bewerteten an der Bildungsarbeit in Großschutzgebieten besonders positiv den hohen Bezug zur Praxis, der sich auch am Lernort direkt vor der Tür festmacht. Gegenüber schulischen Lernarrangements werden auch die Methodik und die Themen als abwechslungsreich und kreativ empfunden. Das geht bis zu dem Begriff des Edutainments und andere auf Erleben ausgerichteten Lernformen, die als Stärke der Arbeit gesehen werden. Einige Teilnehmer/innen machen die Aussage, dass die kontinuierliche Arbeit vor Ort mit den Kindern verschiedener (mitwachsender) Altersgruppen eine Stärke darstellt. Diese Aussage sollte in Beziehung mit einer angegebenen Schwäche, nämlich der teilweise diskontinuierlichen Arbeit und dem häufigen Personalwechsel gesehen werden. Man könnte vermutlich zusammenfassen, dass die kontinuierliche Arbeit dort sehr geschätzt wird, wo die Rahmenbedingungen, wie Personalsituation etc. dies zulassen.	Die Schwächen in der Bildungsarbeit der Großschutzgebiete werden vornehmlich in zwei Bereichen gesehen. Einerseits in der Frage mangelnder Personalversorgung, entweder in qualitativer Hinsicht (temporäre Hilfskräfte) und auch in quantitativer Weise, vor allem in Saisonzeiten. Diese Ausstattungsmängel beziehen sich scheinbar vor allem auf die Personalsituation und nur wenig auf andere Bereiche, wie die allgemeine finanzielle Ausstattung oder die Räumlichkeiten. Der zweite häufig genannte Mangelbereich liegt in der Qualität der Angebote. Es wird, mit Verweis auf die Zeit- und Personalsituation, das eigene Bildungsangebot als wenig abwechslungsreich, fachspezifi sch und „eingefahren“ empfunden. Für die Umsetzung neuer Konzepte scheint die Zeit zu fehlen. Diese Einschätzung ist auch im Kontext mit den offensichtlich vorhandenen Möglichkeiten abwechslungsreicher Bildungsangebote zu sehen, welche die Stärkenanalyse eindeutig ergab. Nicht unwichtig ist auch die Problematik fehlender Akzeptanz für Bildungsangebote, die nicht nur außerhalb, sondern auch innerhalb der Schutzgebietsverwaltungen ausgemacht wird. Verbesserungswürdig wird auch die Zusammenarbeit mit den Schulen gesehen, die Wirkung der Bildungsangebote bleibt unklar und bedarf der systematischen Evaluation.

Europarc Deutschland (2004:24-26)

Rahmenkonzept einer Bildung für nachhaltige Entwicklung in Großschutzgebieten
[Framework of Education for Sustainable Development in Protected Areas]

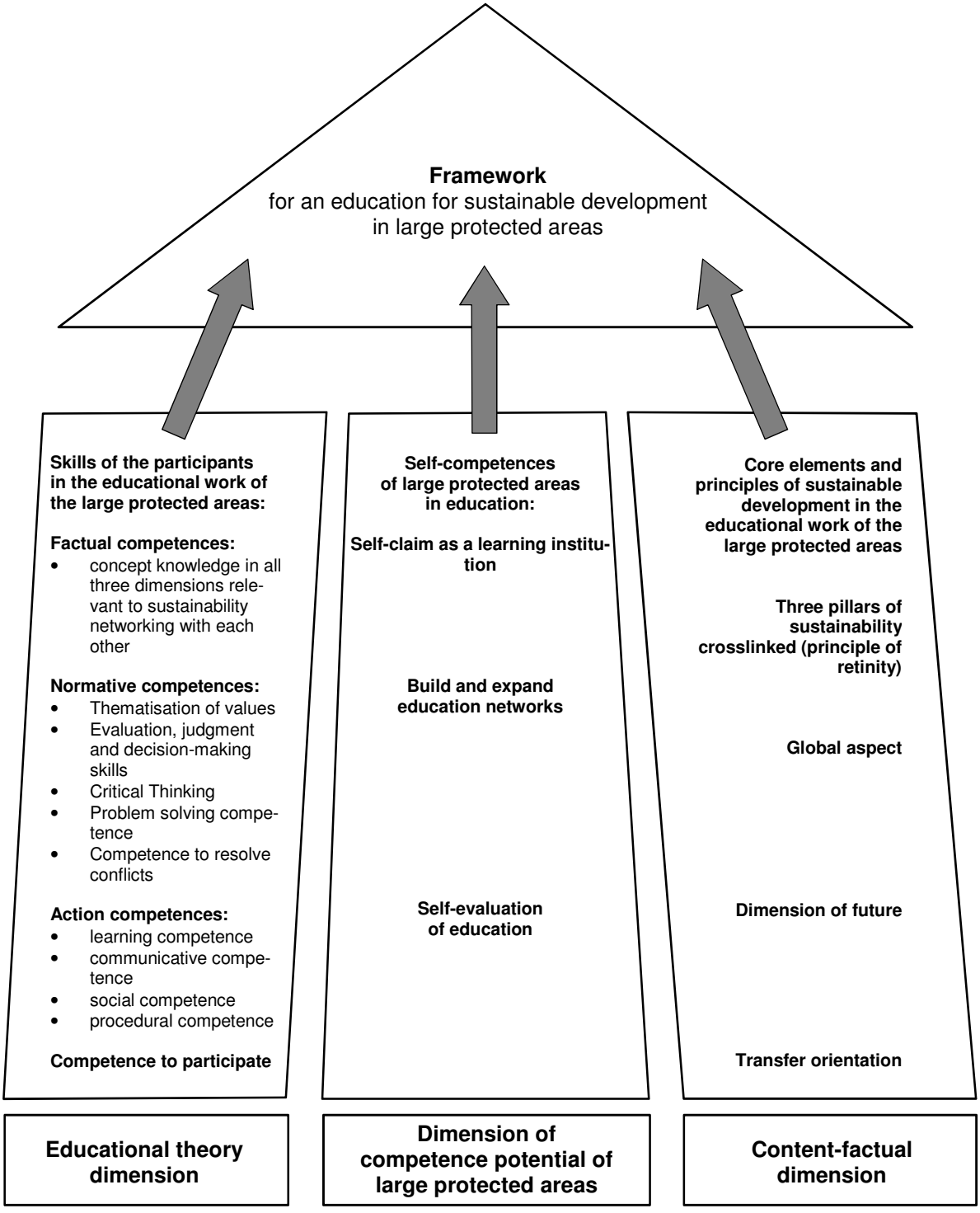
Original German Version



Leng (2009:226)

Rahmenkonzept einer Bildung für nachhaltige Entwicklung in Großschutzgebieten
[Framework of Education for Sustainable Development in Protected Areas]

Translation from the original German Version: Leng (2009:226)



ParcInterp Training Stages

Course Hours		Self-study Hours		Audience / Certificate
Stage 1: ParcInterp Basic Course				
entry training	32			target group: staff working at visitor services at times
		assignment	8	
advanced training	32			
		assignment	8	
final training	30			
written test	2			
practical test	8			
	104		16	Certified Heritage Interpreter

To retain their certificate, participants must, once a year, receive and provide one peer-reviewed interpretive talk and create or rewrite one short interpretive panel text.

Stage 2: ParcInterp Professional Course				
		on two occasions each, receive and provide a peer-reviewed interpretive talk	8	target group: staff working at visitor services almost all time
		on two occasions, create or rewrite one short interpretive panel text	8	
Prof. Training I (Personal Services)	16			
		on two occasions each, receive and provide a peer-reviewed interpretive talk	8	
		on two occasions, create or rewrite one short interpretive panel text	8	
		assignment	8	
Prof. Training II (Non-personal Services)	16			
		on two occasions each, receive and provide a peer-reviewed interpretive talk	8	
		on two occasions, create or rewrite one short interpretive panel text	8	
		assignment	8	
Prof. Training III (Planning / Evaluation)	16			
		assignment	8	
	48		72	Certified Interpretive Ranger

To retain their certificate, participants must, once a year, develop and deliver one best practice example.

Ludwig (2012b:17)

Comparison of ParcInterp Standards for Interpretation and for Interpreters Subject Areas 1 and 2

Standards for Interpretation in Protected Areas	Standards for Interpreters (Competence Level III)
1.1. Principles and Models of Interpretation Short-term education activities for visitors in protected areas are aligned to the idea of heritage interpretation and to the methods and scientific findings on which interpretation is based. They rely on firsthand experience of original sites and objects, linked to themes, and designed to provoke active involvement of visitors.	The interpreter is aware of the origin and purpose of heritage interpretation. S/he knows the elements of and the interdependencies within the interpretive triangle, and is able to transfer them to different personal and non-personal interpretive methods without any assistance.
1.2. Natural and Cultural Phenomena Short-term education activities for visitors in protected areas are focused on the firsthand experience of the conserved natural or cultural phenomena which are presented in a broader context and in a way that raises questions, and allows an exciting revelation of different aspects in the course of their interpretation.	The interpreter can explain the meaning of original objects and sites for heritage interpretation. S/he is able to select natural and cultural phenomena according to their interpretive potential, and to share and reveal specific aspects in an exciting way without any assistance.
1.3. Interpreters Protected area administrations support their educational staff – especially rangers – in developing their strengths and in recognizing their weaknesses. They encourage staff members, within an agreed structure, to improve their own style, to cooperate with each other and to acquire further qualifications in a well-directed way.	The interpreter is familiar with the mission of the ranger service. S/he is committed to the protection of natural and cultural heritage, aware of the role s/he is playing within this task, and able to emphasize her/his strengths and to plan her/his career in a well-directed way.
1.4. Visitors Short-term education activities for visitors in protected areas encourage visitors to be involved and to participate in an enjoyable way. They are related to the visitor's world in a meaningful way, addressed to the whole person (head, heart and hand), respect potential barriers and suggest changes of perspective.	Without any assistance, the interpreter is able to involve visitors as whole people (head, heart and hand), and to encourage encounters and changes of perspective, giving phenomena a meaning beyond facts, and inspiring visitors to support their protection.
1.5. Themes Short-term education activities for visitors in protected areas are directed to themes or larger truths. Themes offer links by way of intangibles such as universal ideas, and by use of other stepping stones whose messages provoke internal or external involvement. An important criterion for selecting facts is their ability to support these themes.	The interpreter can distinguish topic, theme and message. Based on an original site or object and without any assistance, s/he can create a theme to facilitate access through intangibles such as universal ideas and other stepping stones, and to select facts to support this theme.
2.1 Interpretive Talks Interpretive talks (lasting about ten minutes) inspire and enhance firsthand experiences with natural or cultural phenomena. They are guided by a theme and related to the visitor. Prevailing conditions like sun/rain, summer/winter or day/night must be taken into account. Interpretive talks play a major role in training the interpreters of an area.	Without any assistance, the interpreter is able to prepare and to give an interpretive talk (lasting about ten minutes) related to one phenomenon, encouraging the visitor to participate, and taking account of prevailing conditions such as sun/rain, summer/winter or day/night.
2.2 Interpretive Walks Interpretive walks are guided walks, using the principles of interpretation. Within the framework of a main theme, they sequentially connect several phenomena and themes, following one theme line, and are related to the visitor. Prevailing conditions like sun/rain, summer/winter and day/night must be taken into account.	Without any assistance, the interpreter is able to prepare and to conduct an interpretive walk with five interpretive talks along one theme line, encouraging the visitor to participate, and taking account of prevailing conditions such as sun/rain, summer/winter or day/night.
2.3 Roving Interpretation Within the framework of one main theme, roving interpretation links several phenomena and themes inside one theme circle but in a dispersed way. The interpretive process is partly conditioned by dialogue with the visitor. Prevailing conditions like sun/rain, summer/winter and day/night must be taken into account.	Without any assistance, the interpreter is able to prepare and to conduct roving interpretation by developing one theme circle within a natural or cultural area (Ø about 10 metres), encouraging the visitor to participate, and taking account of prevailing conditions (see left column).
2.4 Live Interpretation Within the framework of one main theme, first- or third-person-interpretation, with one or more interpreters, is based on carefully researched and structured biographies. Live interpreters bring a real site or phenomenon to life, while integrating the visitor into the performance.	Without any assistance, the interpreter is able to prepare and to conduct first- or third-person live interpretation, to be achieved alone or with several interpreters/roles. Part of the preparation is the investigation or development of real or fictional historical biographies.
2.5 One-Day Programmes for School Classes One-day programmes for school classes are centred on phenomena and themes. They are target-group oriented and based on learning by doing. Aligned to current formal curricula, they aim to improve cooperation with educational institutions and highlight the relevance of the protected area in terms of educational value.	Without any assistance, the interpreter is able to prepare and to conduct one-day programmes for school classes, aligned to target groups and formal curricula. S/he can debate with the teacher about preparation and follow-up activities, content and organisation, in a competent way.

Ludwig (2012b:18)

Comparison of ParcInterp Standards for Interpretation and for Interpreters Subject Areas 3 and 4

Standards for Interpretation in Protected Areas	Standards for Interpreters (Competence Level III)
3.1 Interpretive Text Written or spoken interpretive text which is prepared in advance, deals at any one time with only one phenomenon on site. It reveals a limited number of facts that illustrate and explain one theme which is aligned to the phenomenon. It is short, illustrative, well-structured and stimulating and related to the visitor's own 'world'.	Without any assistance, the interpreter is able to prepare a short text which follows the principles of interpretation, for panels and brochures (amounting to about 50 words) as well as for audio recordings (lasting about 80 seconds).
3.2 Interpretive Elements Interpretive elements combine text, illustration, audio, interactive or art elements. They deal at any one time with only one phenomenon on site, directed by one theme and related to the visitor's own 'world'. Interpretive elements are core parts of interpretive trails, interpretive areas and interpretive centres.	Without any assistance, the interpreter is able to combine text, illustration, audio, interactive or art elements in an exhibit plan which follows the principles of interpretation, and which is ready for implementation.
3.3 Interpretive Trails Interpretive trails are educational trails, guided by the principles of interpretation. Within the framework of one main theme, they sequentially connect several phenomena and themes, following one theme line, and relate to the visitor's own 'world' at each stop.	Without any assistance, the interpreter is able to develop a main theme, a theme line building on that main theme, a preliminary plan, a design plan and a construction plan encompassing the contents of an interpretive trail consisting of five interpretive elements.
3.4 Interpretive Areas Within the framework of one main theme, interpretive areas connect several phenomena and themes inside one theme circle in a dispersed way. They relate all phenomena to the visitor's own 'world' and allow visitors to decide their own sequence of interpretive experience without losing their focus.	Without any assistance, the interpreter is able to develop a main theme, a theme circle building on that main theme, a preliminary plan, a design plan and a construction plan encompassing the contents of an interpretive area consisting of five interpretive elements.
3.5 Interpretive Centres The whole focus of an interpretive centre is on a specific site and its phenomena, and it is guided by thematic interpretation. Within the framework of one main theme, media support and explain the site and phenomena without outdoing them. They aim to create a close relationship between the site and its visitors.	Without any assistance, the interpreter is able to develop a preliminary plan, a design plan and a construction plan encompassing the contents of an interpretive centre (ground area about 100 m^2), related to the phenomena on site and following one main theme.
4.1 Interpretive Planning Interpretive planning is an essential component of the management planning process for a protected area. There must be a comprehensive interpretive strategy – as well as a regularly-updated interpretive plan – on which all current visitor-related interpretive and educational activities must be based.	Without any assistance, the interpreter is able to fulfil all tasks connected to an interpretive planning process in a responsible and comprehensive way, and to develop interpretive project briefs for the commission of planning and achieving all interpretive services.
4.2 Evaluation There must be an assessment plan for all interpretive activities which is directly related to the interpretive aims and objectives included in the management plan. The evaluation assesses the level achievement of these aims and objectives. Unless justified to the contrary, all assessment takes place at all stages of evaluation.	Without any assistance, the interpreter is able to develop an assessment plan for all interpretive services, considering front-end, formative and summative evaluation. S/he knows how to implement this plan, and how to analyse and utilize the results of the research.
4.3 Peer Coaching As an essential tool of personnel development, peer coaching must be an integral part of the management of a protected area, with the necessary staff time resources provided. In personal interpretation, peer coaching is used to allow staff members to support each other in the improvement of their abilities.	Without any assistance, the interpreter is able to accompany a colleague within a peer coaching process during an interpretive talk, an interpretive walk, or roving interpretation, and to assess the interpretive service by sharing a competent review.
4.4 Accessibility Interpretation is generally understood as a multi-dimensional process. For people with any kind of disability, at least one typical site in each landscape category of the protected area must be accessible. This principle is applicable to all types of interpretive services.	Without any assistance, the interpreter is able to select natural or cultural phenomena that allow universal access, to process them for different interpretive services in a multi-dimensional and barrier-free way and to suggest ways to overcome barriers in the surroundings.
4.5 Education for Sustainable Development (ESD) All landscape categories that are typical of the protected area must be represented by at least one key phenomenon that relates to global justice, and to the responsibility towards future generations in terms of ecological, economic and socio-cultural aspects.	Without any assistance, the interpreter is able to select and present ESD key phenomena (see left column), according to the principles of interpretation. Considering the state of research, s/he can clarify how interpretation should be designed to meet the needs of ESD.

Ludwig (2012b:19)

Competence Levels for Interpretive Training
Subject Area 1: Basics of Interpretation

Level I - Basic Knowledge	Level II - Working Knowledge	Level III - Professional Knowledge
1.1. Principles and Models of Interpretation		
The interpreter knows the purpose and the origin of heritage interpretation. S/he can explain the process of interpretation by using the interpretive triangle. .	The interpreter can explain and illustrate the purpose, the origin and the process of heritage interpretation; the last by using the interpretive triangle and transferring it to a common personal or non-personal method.	The interpreter is aware of the origin and purpose of heritage interpretation. S/he knows the elements of and the interdependencies within the interpretive triangle, and is able to transfer them to different personal and non-personal interpretive methods without any assistance.
1.2. Natural and Cultural Phenomena		
The interpreter can explain the meaning of original objects and sites for heritage interpretation.	The interpreter can explain the meaning of original objects and sites for heritage interpretation. S/he is able to select natural and cultural phenomena according to their interpretive potential.	The interpreter can explain the meaning of original objects and sites for heritage interpretation. S/he is able to select natural and cultural phenomena according to their interpretive potential, and to share and reveal specific aspects in an exciting way without any assistance.
1.3. Interpreters		
The interpreter knows about the influence of the ranger service as the genesis of the interpretive profession and can briefly describe the mission of park rangers.	The interpreter is familiar with the profession of the park ranger. S/he can describe her/his own role within the interpretive process and some of her/his own strengths and weaknesses.	The interpreter is familiar with the mission of the ranger service. S/he is committed to the protection of natural and cultural heritage, aware of the role s/he is playing within this task, and able to emphasize her/his strengths and to plan her/his career in a well-directed way.
1.4. Visitors		
The interpreter can explain why active involvement of visitors is important for the success of interpretation. .	The interpreter can explain why the active involvement of visitors is important for the success of interpretation. S/he can distinguish facts from meanings and give some examples for stepping stones into the visitor's world.	Without any assistance, the interpreter is able to involve visitors as whole people (head, heart and hand), and to encourage encounters and changes of perspective, giving phenomena a meaning beyond facts, and inspiring visitors to support their protection.
1.5. Themes		
The interpreter can explain the difference between topic and theme.	The interpreter can explain the difference between topic and theme. S/he can give an example for an attractive theme and illustrate its potential effect.	The interpreter can distinguish topic, theme and message. Based on an original site or object and without any assistance, s/he can create a theme to facilitate access through intangibles such as universal ideas and other stepping stones, and to select facts to support this theme.

The following shadings are connected to the following sessions:

Basic Course	Prof. Training I	Prof. Training II	Prof. Training III

Ludwig (2012b:20)

Competence Levels for Interpretive Training
Subject Area 2: Personal Interpretation

Level I - Basic Knowledge	Level II - Working Knowledge	Level III - Professional Knowledge
2.1. Interpretive Talks		
Within personal interpretive services the interpreter is able to specify the characteristics of an interpretive talk. S/he can assess where this service could be applied in her/his own working field.	Under guidance, the interpreter is able to prepare an interpretive talk (lasting about ten minutes) related to one phenomenon, and encouraging the visitor to participate. S/he can give this talk under reasonable prevailing conditions (weather, time of day/year) without any assistance.	Without any assistance, the interpreter is able to prepare and to give an interpretive talk (lasting about ten minutes) related to one phenomenon, encouraging the visitor to participate, and taking account of prevailing conditions such as sun/rain, summer/winter or day/night.
2.2. Interpretive Walks		
Within personal interpretive services the interpreter is able to describe the structure of a theme line for an interpretive walk. S/he can assess where this service could be applied in her/his own working field.	Under guidance, the interpreter is able to develop a theme line and an interpretive walk with five interpretive talks, encouraging the visitor to participate. S/he can guide this walk under reasonable prevailing conditions (weather, time of day/year) without any assistance.	Without any assistance, the interpreter is able to prepare and to conduct an interpretive walk with five interpretive talks along one theme line, encouraging the visitor to participate, and taking account of prevailing conditions such as sun/rain, summer/winter or day/night.
2.3. Roving Interpretation		
Within personal interpretive services the interpreter is able to describe the structure of a theme circle for roving interpretation. S/he can assess where this service could be applied in her/his own working field.	Under guidance, the interpreter is able to develop a theme circle for roving interpretation within a natural or cultural area (Ø about 10 metres), encouraging the visitor to participate. S/he can provide this service under reasonable prevailing conditions (weather, time of day/year) without any assistance.	Without any assistance, the interpreter is able to prepare and to conduct roving interpretation by developing one theme circle within a natural or cultural area (Ø about 10 metres), encouraging the visitor to participate, and taking account of prevailing conditions such as sun/rain, summer/winter or day/night.
2.4. Live Interpretation		
The interpreter is able to specify live interpretation with its different varieties. S/he can assess where this service could be applied in her/his own working field.	Under guidance, the interpreter is able to prepare a first-person live interpretation, to be achieved alone or with several interpreters/roles. S/he can conduct this service without any assistance.	Without any assistance, the interpreter is able to prepare and to conduct first- or third-person live interpretation, to be achieved alone or with several interpreters/roles. Part of the preparation is the investigation or development of real or fictional historical biographies.
2.5. One-Day Programmes for School Classes		
The interpreter is able to explain, what has to be taken into consideration in terms of the particular target group, while preparing and conducting one-day programmes for school classes.	Under guidance, the interpreter is able to develop one-day programmes for school classes, aligned to target groups and formal curricula. S/he can conduct these programmes and resolve organisational issues with the teacher without any assistance.	Without any assistance, the interpreter is able to prepare and to conduct one-day programmes for school classes, aligned to target groups and formal curricula. S/he can debate with the teacher about preparation and follow-up activities, content and organisation, in a competent way.

The following shadings are connected to the following sessions:

Basic Course	Prof. Training I	Prof. Training II	Prof. Training III

Ludwig (2012b:21)

Competence Levels for Interpretive Training
Subject Area 3: Non-Personal Interpretation

Level I - Basic Knowledge	Level II - Working Knowledge	Level III - Professional Knowledge
3.1. Interpretive Text		
The interpreter is able to explain the difference between informative text and interpretive text. S/he can specify some points that have to be taken into consideration to make interpretive text clear and catchy.	Under guidance, the interpreter is able to prepare a short text which follows the principles of interpretation, for panels and brochures (amounting to about 50 words) as well as for audio recordings (lasting about 80 seconds).	Without any assistance, the interpreter is able to prepare a short text which follows the principles of interpretation, for panels and brochures (amounting to about 50 words) as well as for audio recordings (lasting about 80 seconds).
3.2. Interpretive Elements		
The interpreter is able to refer examples for interpretive elements, and to explain how their constituents like text, illustration, audio, interactive or art elements can be combined against the background of the principles of interpretation.	Under guidance, the interpreter is able to combine text, illustration, audio, interactive or art elements in an exhibit draft which follows the principles of interpretation.	Without any assistance, the interpreter is able to combine text, illustration, audio, interactive or art elements in an exhibit plan which follows the principles of interpretation, and which is ready for implementation.
3.3. Interpretive Trails		
The interpreter is able to describe the development of a theme line for an interpretive trail. S/he can assess where this non-personal interpretive service could be applied in her/his own working field.	Under guidance, the interpreter is able to develop a main theme, a theme line building on that main theme, a preliminary plan and a design plan for the contents of an interpretive trail consisting of five interpretive elements.	Without any assistance, the interpreter is able to develop a main theme, a theme line building on that main theme, a preliminary plan, a design plan and a construction plan encompassing the contents of an interpretive trail consisting of five interpretive elements.
3.4. Interpretive Areas		
The interpreter is able to describe the development of a theme circle for an interpretive area. S/he can assess where this non-personal interpretive service could be applied in her/his own working field.	Under guidance, the interpreter is able to develop a main theme, a theme circle building on that main theme, a preliminary plan and a design plan concerning the contents for an interpretive area consisting of five interpretive elements.	Without any assistance, the interpreter is able to develop a main theme, a theme circle building on that main theme, a preliminary plan, a design plan and a construction plan encompassing the contents of an interpretive area consisting of five interpretive elements.
3.5. Interpretive Centres		
The interpreter is able to describe the characteristics of an interpretive centre, point out ideas for its realisation in a natural or cultural setting, and specify the differences between an information centre and an interpretive centre.	Under guidance, the interpreter is able to develop a preliminary plan and a design plan concerning the contents of an interpretive centre (ground area about 100 m^2), related to the phenomena on site and following one main theme.	Without any assistance, the interpreter is able to develop a preliminary plan, a design plan and a construction plan encompassing the contents of an interpretive centre (ground area about 100 m^2), related to the phenomena on site and following one main theme.

The following shadings are connected to the following sessions:

Basic Course	Prof. Training I	Prof. Training II	Prof. Training III

Ludwig (2012b:22)

Competence Levels for Interpretive Training
Subject Area 4: Interpretive Planning and Improvement

Level I - Basic Knowledge	Level II - Working Knowledge	Level III - Professional Knowledge
4.1. Interpretive Planning		
The interpreter knows all planning levels and stages as well as the different aspects of planning. S/he can effectively support planners in their search of suitable phenomena and themes.	The interpreter is familiar with all interpretive planning processes. Under guidance, s/he is able to represent the concerns of interpretation in a planning team and to develop interpretive project briefs.	Without any assistance, the interpreter is able to fulfil all tasks connected to an interpretive planning process in a responsible and comprehensive way, and to develop interpretive project briefs for the commission of planning and achieving all interpretive services.
4.2. Evaluation		
The interpreter is aware of the significance of evaluation for heritage interpretation. S/he can use examples to explain, how the success of her/his own work can be assessed during planning and realisation as well as subsequently.	The interpreter knows under which circumstances evaluation processes are reliable. Under guidance, s/he is able to plan and to adopt specific assessment measures.	Without any assistance, the interpreter is able to develop an assessment plan for all interpretive services, considering front-end, formative and summative evaluation. S/he knows how to implement this plan, and how to analyse and utilize the results of the research.
4.3. Peer Coaching		
The interpreter is aware of the particular importance of peer coaching for the advancement of the quality of interpretive work. S/he can specify significant criteria for the assessment as well as basic principles of critiquing.	Under guidance, the interpreter is able to accompany a colleague within a peer coaching process during an interpretive talk, and to assess this interpretive service by sharing a competent review.	Without any assistance, the interpreter is able to accompany a colleague within a peer coaching process during an interpretive talk, an interpretive walk or roving interpretation, and to assess the interpretive service by sharing a competent review.
4.4. Accessibility		
The interpreter is familiar with the principles of universal access. S/he can characterise the different types of barriers and give examples, how heritage interpretation can be designed in a barrier-free way.	The interpreter is familiar with the principles of universal access and can characterise the different types of barriers. Under guidance, s/he is able to plan and conduct the interpretation of appropriate natural or cultural phenomena in an acessible way.	Without any assistance, the interpreter is able to select natural or cultural phenomena that allow universal access, to process them for different interpretive services in a multi-dimensional and barrier-free way and to suggest ways to overcome barriers in the surroundings.
4.5. Education for Sustainable Development (ESD)		
The interpreter is aware of the meaning of sustainable development in the current, widespread use of the term, and s/he knows about the characteristics of key phenomena within education for sustainable development (see right column).	Under guidance, the interpreter is able to select and to present ESD key phenomena that make global justice and the responsibility towards future generations in terms of ecological, economic and socio-cultural aspects comprehensible.	Without any assistance, the interpreter is able to select and present ESD key phenomena (see left column), according to the principles of interpretation. Considering the state of research, s/he can clarify how interpretation should be designed to meet the needs of ESD.

The following shadings are connected to the following sessions:

Basic Course	Prof. Training I	Prof. Training II	Prof. Training III

Ludwig (2012b:23)

ParcInterp Basic Course – Certification Standards and Criteria Subject Areas 1 and 2

Standards	Criteria
1.1 **Principles and Models of Interpretation** The interpreter is aware of origin and purpose of heritage interpretation. S/he knows the elements of and the interdependencies within the interpretive triangle, and is able to transfer them to different personal and non-personal interpretive methods without any assistance.	The interpreter is able to ▪ connect the purpose of interpretation with the genesis of the ranger profession, ▪ illustrate and compare some of John Muir's and Ernst Rudorff's important ideas, ▪ explain the six principles of interpretation as set out by Freeman Tilden, ▪ describe the interpretive triangle and apply it on site.
1.2 **Natural and Cultural Phenomena** The interpreter can explain the meaning of original objects and sites for heritage interpretation. S/he is able to select natural and cultural phenomena according to their interpretive potential, and to share and reveal specific aspects in an exciting way without any assistance.	The interpreter is able to ▪ identify natural and cultural phenomena and distinguish them from themes, ▪ describe the relationship of facts and phenomena, ▪ obtain secured facts from different sources, ▪ reveal phenomena or specific aspects of phenomena in an exciting way.
1.3 **Interpreters** The interpreter is familiar with the mission of the ranger service. S/he is committed to the protection of natural and cultural heritage, aware of the role s/he is playing within this task, and able to emphasize her/his strengths and to plan her/his career in a well-directed way.	The interpreter is able to ▪ explain the mission, as an agent of natural and cultural heritage, in a decisive way, ▪ represent the institution s/he is standing for to visitors, ▪ play different roles – especially in personal interpretation, ▪ emphasize his/her strengths and plan his/her career in a well-directed way.
1.4 **Visitors** Without any assistance, the interpreter is able to involve visitors as whole people (head, heart and hand), and to encourage encounters and changes of perspective, giving phenomena a meaning beyond facts, and inspiring visitors to support their protection.	The interpreter is able to ▪ demonstrate different ways of determining the needs of visitors, ▪ open and close talks in a way that is compatible with the visitors, ▪ explain and use, systematically, universal ideas and personal meanings, ▪ select and apply stepping stones into the visitors' world.
1.5 **Themes** The interpreter can distinguish topic, theme and message. Based on an original site or object and without any assistance, s/he can create a theme to facilitate access through intangibles such as universal ideas and other stepping stones, and to select facts to support this theme.	The interpreter is able to ▪ describe the differences between topics, themes and messages, ▪ connect meanings and facts within attractive themes, ▪ draw out themes from natural or cultural phenomena, ▪ explain the potential value of specific themes.
2.1 **Interpretive Talks** Without any assistance, the interpreter is able to prepare and to give an interpretive talk (lasting about ten minutes) related to one phenomenon, encouraging the visitor to participate, and taking account of prevailing conditions such as sun/rain, summer/winter or day/night.	The interpreter is able to ▪ define the term "interpretive talk" and switch from information to interpretation, ▪ change consciously between different roles and manage controversies, ▪ use active listening, ask open-ended questions and respond to unexpected answers, ▪ form up visitor groups in different ways without direct instruction.
2.2 **Interpretive Walks** Without any assistance, the interpreter is able to prepare and to conduct an interpretive walk with five interpretive talks along one theme line, encouraging the visitor to participate, and taking account of prevailing conditions such as sun/rain, summer/winter or day/night.	The interpreter is able to ▪ describe the planning process for a compehensive interpretive service, ▪ explain the terms "interpretive walk", "main theme" and "theme line", ▪ define the topic and main theme for an interpretive walk, ▪ select appropriate phenomena in relation to a coherent theme line.
2.3 **Roving Interpretation** Under guidance, the interpreter is able to develop a theme circle for roving interpretation within a natural or cultural area (Ø about 10 metres), encouraging the visitor to participate. S/he can provide this service under reasonable prevailing conditions (see above) without any assistance.	The interpreter is able to ▪ explain the terms "roving interpretation", "main theme" and "theme circle", ▪ define the topic and main theme for an activity in roving interpretation, ▪ select appropriate phenomena in terms of a coherent theme circle, ▪ switch seamlessly between selected phenomena according to visitors' responses.
2.4 **Live Interpretation** Under guidance, the interpreter is able to prepare a first-person live interpretation, to be achieved alone or with several interpreters/roles. S/he can conduct this service without any assistance.	The interpreter is able to ▪ research facts for living history interpretation in diverse ways, ▪ describe the planning process for live interpretation, ▪ explain different manifestations of live interpretation, ▪ list advantages and disadvantages of live interpretation with more than one person.
2.5 **One-Day Programmes for School Classes** Under guidance, the interpreter is able to develop one-day programmes for school classes, aligned to target groups and formal curricula. S/he can conduct these programmes and resolve organisational issues with the teacher without any assistance.	The interpreter is able to ▪ list advantages and disadvantages of standardised programmes, ▪ describe children and young people as distinct target groups. ▪ become familiar with the school curricula of the particular federal state. ▪ explain characteristic elements of programmes for school classes.

Ludwig (2012b:24)

ParcInterp Basic Course – Certification Standards and Criteria Subject Areas 1 and 2

Standards	Criteria
3.1 **Interpretive Text** Without any assistance, the interpreter is able to prepare a short text which follows the principles of interpretation, for panels and brochures (amounting to about 50 words) as well as for audio recordings (lasting about 80 seconds).	The interpreter is able to ▪ demonstrate basic knowledge of the readability of fonts and text, ▪ relate phenomena to the visitor's own 'world' through use of text, ▪ use text for provocation of thought and exciting revelation, ▪ incorporate a theme into text according to the principles of interpretation.
3.2 **Interpretive Elements** Under guidance, the interpreter is able to combine text, illustration, audio, interactive or art elements in an exhibit draft which follows the principles of interpretation.	The interpreter is able to ▪ list the advantages and disadvantages of universal layout grids for panels etc., ▪ suggest appropriate locations and panel formats, text and illustrative elements, ▪ distinguish formats of, and develop scripts for, audio elements, ▪ offer reasonable suggestions for interpretation through interactive or art elements.
3.3 **Interpretive Trails** Under guidance, the interpreter is able to develop a main theme, a theme line building on that main theme, a preliminary plan and a design plan for the contents of an interpretive trail consisting of five interpretive elements.	The interpreter is able to ▪ explain the term "interpretive trail", ▪ define the topic and main theme for an interpretive trail, ▪ select appropriate phenomena in relation to a coherent theme line, ▪ select appropriate interpretive elements relating to the phenomena (see 3.2).
3.4 **Interpretive Areas** Under guidance, the interpreter is able to develop a main theme, a theme circle building on that main theme, a preliminary plan and a design plan concerning the contents for an interpretive area consisting of five interpretive elements.	The interpreter is able to ▪ explain the term "interpretive area", ▪ define the topic and main theme for an interpretive area, ▪ select appropriate phenomena in relation to a coherent theme circle, ▪ select appropriate interpretive elements relating to the phenomena (see 3.2).
3.5 **Interpretive Centres** The interpreter is able to describe the characteristics of an interpretive centre, point out ideas for its realisation in a natural or cultural setting, and specify the differences between an information centre and an interpretive centre.	The interpreter is able to ▪ specify the differences between an information centre and an interpretive centre, ▪ describe a best-practice example of an existing interpretive centre, ▪ show, at a specific natural or cultural site, how an interpretive centre could work, ▪ list stakeholders that should be involved in the planning team of an interpretive centre.
4.1 **Interpretive Planning** The interpreter knows all planning levels and stages as well as the different aspects of planning. S/he can effectively support planners in their search of suitable phenomena and themes.	The interpreter is able to ▪ outline the management objectives that are relevant to interpretive services, ▪ recognise and research on-site deviations in fulfilling the management plan, ▪ describe and justify different planning levels and stages, ▪ explain her/his own role as an interpreter in the planning process.
4.2 **Evaluation** The interpreter is aware of the significance of evaluation for heritage interpretation. S/he can use examples to explain, how the success of her/his own work can be assessed during planning and realisation as well as subsequently.	The interpreter is able to ▪ explain the advantage of assessing her/his own work, ▪ distinguish the different phases of evaluation and describe their specific value, ▪ show examples where evaluation resulted in improvement, ▪ suggest an evaluation activity which can improve her/his own work.
4.3 **Peer Coaching** Without any assistance, the interpreter is able to accompany a colleague within a peer coaching process during an interpretive talk, an interpretive walk, or roving interpretation, and to assess the interpretive service by sharing a competent review.	The interpreter is able to ▪ encourage a colleague to give her/his own assessment first, listening actively, ▪ compliment a colleague about a specific observation without adding constraints, ▪ criticise a colleague in an empathetic way, pointing out potential for development, ▪ agree upon specific and achievable objectives together with the colleague.
4.4 **Accessibility** The interpreter is familiar with the principles of universal access and can characterise the different types of barriers. Under guidance, s/he is able to plan and conduct the interpretation of appropriate natural or cultural phenomena in an acessible way.	The interpreter is able to ▪ explain the characteristics of universal access, ▪ assess different types of physical and intellectual disabilities, ▪ show how interpretation can help to overcome barriers, ▪ provide, under guidance, barrier-free access to natural or cultural phenomena.
4.5 **Education for Sustainable Development (ESD)** Under guidance, the interpreter is able to select and to present ESD key phenomena that make global justice and the responsibility towards future generations in terms of ecological, economic and socio-cultural aspects comprehensible.	The interpreter is able to ▪ list the parameters of sustainable development, ▪ distinguish ESD key phenomena from other natural or cultural phenomena, ▪ merge ecological, economic, socio-cultural and global aspects, ▪ make connections, even abstract ones, without losing reference to the local site.

Ludwig (2012b:25)

Examples for ESD Key Phenomena

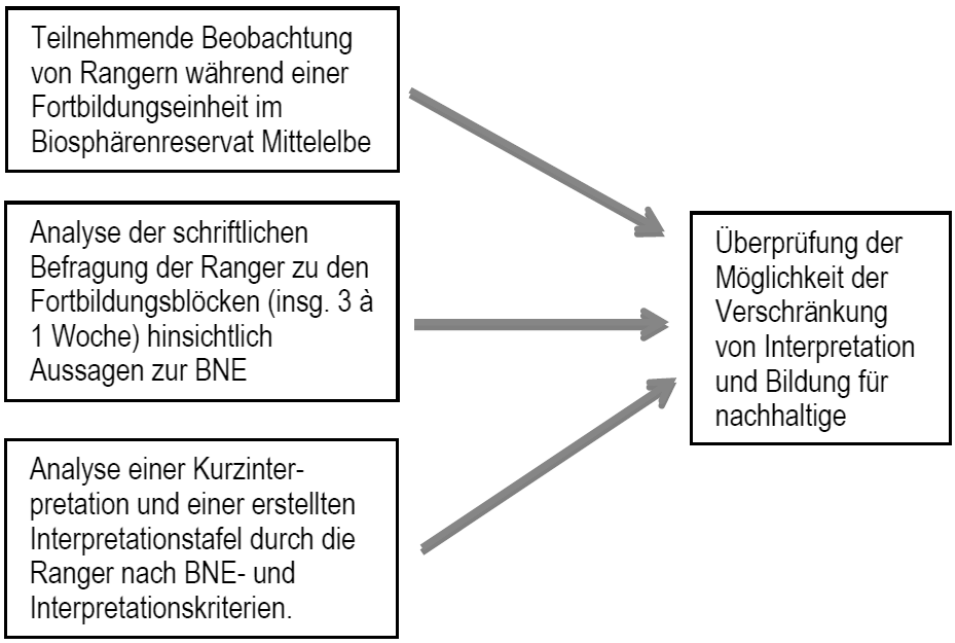
	Insulation of a Swiss mountain house	Beleaguered cherry tree
Situation	We are standing among the snow-covered Pennine Alps in front of a multi-storeyed chalet, the timber house characteristic of this region. The sunlit larch facade's reddish shingles are worn by wind and weather so much that parts of them are lost and you can see layers of a French newspaper. At a point where the shingles are missing, you can even read "Vendredi 12 Juin 1903" – Friday 12 June, 1903. At this time, the North and South Poles haven't been explored yet, Mount Everest hasn't been climbed and the Wright brothers were just preparing for their first powered flight. However, the predominant fact was that this remote mountain valley was where the construction of the Simplon tunnel began and its Swiss entrance was to be built a long way below the house. An elderly resident explains why the newspapers were used: while the panels of fir kept the warmth in, and the outer larch shingles kept the weather out, the newspapers stopped the wind blowing through the gaps. And they've been there for more than a hundred years.	In the German Eichsfeld, we are standing opposite a castle hill, which is surrounded by a small village. From the edge of this village, grazing land and old orchards extend along a smooth saddle up to our hill. Behind us, the orchards trail away into mixed forest. More than twenty years ago, Germany's internal frontier crossed the site and so lots of aerial photographs were taken between 1950 and 1990. They show that, some decades ago, the village was surrounded by gardens while the saddle was covered by fields and – where the slope became steeper – by field terraces. Where agriculture was no longer possible, orchards were set out and only the very top of the hill behind us was forested. Obviously, the people in the village were largely self-sufficient. Documents show that the forest is steadily extending towards the village, growing over the orchards, terraces and fields. Just behind us, an old and forgotten cherry tree is under threat of being forced out of the ground by an overbearing sycamore maple.
Theme	**Three layers keep this chalet warm.**	**That cherry tree is living beyond its time.**
Facts	▪ The insulation of this chalet consists of several layers. ▪ Three types of wooden product protect it from rain, snow, wind and cold. ▪ As long as it stays dry, newsprint is a suitable building material.	▪ The sycamore maple is forcing out the cherry tree. ▪ In former times, the orchard extended far up the hill. ▪ The distance to the site, where fruit was processed and eaten, was short.
Stepping stones	Historic references (newspaper reports in the wall), site references (larch, fir), experiments with paper, protective layers for people (clothing against cold, wind and rain), animal (different layers of fur, wool or feather) and plant (bud, bulb or bark), comparison with surrounding houses from the 1970s	Historic aerial photos show the new displacing the old, fruit experiences from childhood, experiences from buying fruits in supermarkets, view from the village to the forest – and vice versa, description of the old orchard by means of further remains (neglected fruit trees, terracing of the slope)
Questions	▪ Where did the building materials for this house come from? ▪ Which factors are relevant for the economic life of this house? ▪ Where did the money come from to pay the builders? ▪ Why has the chalet design been exported since the 19th century?	▪ Where does the cherry tree show traces of human impact? ▪ How could its fruit be eaten all year round? ▪ Where is the borderline between natural and cultural landscape? ▪ How did this cherry tree get into the forest?
Revelation	This windbreaker made from newspaper worked for three generations.	The cherry tree once grew in the middle of an orchard.
ESD key topic	**Energy**	**Consumption**
Protection of natural assets	Past: Short distances, timber stays in the biological cycle – and can regrow Today: Material is often modified (energy) and from far away (transport)	Past: Growing and preserving food on small space, almost CO_2 neutral Today: Little impact on site – but further away (growing, processing, transport)
Equal share of natural assets	Past: Typical regional building for wealthy people, income from trading Today: Cheap imports, income shared nationwide, houses more affordable	Past: Rural daily-life culture, planted for own children, no relation to others Today: Knowledge about the global community, but low-wage work elsewhere
Careful use of natural assets	Past: Almost only natural material, durability preserves hill slope Today: Larch is exported, exploitation (people, nature) in low-wage countries	Past: Tree husbandry throughout the year, no machines, low capital turnover Today: Money making essential to allow global trade, reforestation on site

The aim of ESD key phenomena is not simply the appreciation of natural and cultural heritage. They encourage visitors, in particular, to consider the balance between conservation and development, inspiring them to seek viable solutions for the future.

Ludwig (2012b:26)

Methodisches Vorgehen zur Überprüfung der Möglichkeit der Verschränkung von Interpretation und Bildung für nachhaltige Entwicklung
[Approach for Checking Opportunities for Connecting Interpretation and Education for Sustainable Development]

Original German Version



Molitor (2012:153)

Requirements for ParcInterp Trainers

ParcInterp basic trainers:

1. participated in a three-part ParcInterp Basic Course taking 120 hours, presented two assessments and passed one exam in theory and one in practice;
2. facilitated a ParcInterp Basic Course in the form mentioned above as co-trainers and performed at least two course days on their own in terms of content and organisation;
3. prepared and successfully performed a one-day introduction to heritage interpretation for students at the Eberswalde University for Sustainable Development;
4. worked for at least one year as heritage interpreters.

Extract from the certificates of ParcInterp trainers certified in 2012

Interview Guide German

ParcInterp-Standards

1. Die Partnerverbände haben 2011 vereinbart, die ParcInterp-Standards in ihrem Umfeld zu verbreiten. Welches sind dafür die aus Ihrer Sicht überzeugendsten Argumente?

2. Gibt es innerhalb Ihres Verbandes einen Austausch zu den ParcInterp-Standards?

3. Gibt es hinsichtlich der Implementierung der ParcInterp-Standards Hürden?

4. Was könnte eine erfolgreiche Verankerung der ParcInterp-Standards in den Schutzgebieten aus ihrer Sicht fördern?

5. Wer sollte außer den ParcInterp-Partnern noch einbezogen werden, um die Standards flächendeckend in den Schutzgebieten zu verankern?

6. An welche bestehenden Angebote und Strukturen kann für eine erfolgreiche Verankerung der ParcInterp-Standards in den Schutzgebieten angeknüpft werden?

ParcInterp-Fortbildungen

7. Gibt es - neben der Fortbildung - Wege, um die ParcInterp-Standards in den Schutzgebieten zu verankern?

8. Einige Ranger sind gegenüber Fortbildungen wenig aufgeschlossen. Wie lassen sich Ranger erfolgreich für Fortbildungen motivieren?

9. ParcInterp sieht vor, den „Interpretationsranger“ als auf den GNL aufbauende Spezialausbildung zu etablieren. Was spricht dafür, was dagegen?

10. Mit Abschluss des Profitrainings sind die Teilnehmer insg. 5 Wochen mit ihrer Fortbildung befasst. Ist das angemessen, vertretbar und praktisch umsetzbar?

11. Wird Bildung für nachhaltige Entwicklung in der künftigen Bildungsarbeit in den Schutzgebieten eine Rolle spielen?

ParcInterp-Perspektiven

12. Es ist angedacht 1) ParcInterp-Fortbildungen in allen deutschen Schutzgebieten durchzuführen, 2) an andere Einrichtungen wie Museen oder Zoos heranzutreten, 3) das Konzept mit Blick auf Europa fortzuentwickeln. Was davon ist wie bedeutsam?

13. Aus den ParcInterp-Standards könnte in den Schutzgebieten eine Qualitätsmarke für Tafeln, Pfade, Infostellen usw. entwickelt werden. Inwiefern wäre das sinnvoll?

14. Wenn die Forschung die Mittel hätte, ParcInterp zu unterstützen, welche Forschungsfragen führen dann aus Ihrer Sicht am ehesten weiter?

15. Welcher Verband oder welche Institution hat am ehesten die Möglichkeit, die Implementierung der ParcInterp-Standards voranzubringen und warum?

Interview Guide English

ParcInterp Standards

1. In 2011, the partner organisations agreed to implement the ParcInterp standards in their own areas. What do you think are the most persuasive arguments for this?

2. Is there any discussion within your association about ParcInterp standards?

3. Are there *o*bstacles to the implementation of ParcInterp standards?

4. From your point of view, what will sustain the successful implementation of ParcInterp standards in protected areas?

5. In addition to the ParcInterp partners, who should be involved in implementing the ParcInterp standards in protected areas throughout Germany?

6. Which existing services and structures can be built on in order to implement ParcInterp standards successfully in protected areas?

ParcInterp Training

7. Are there ways - besides training - of implementing ParcInterp standards in protected areas?

8. Some rangers are not very open to vocational training. How could they be motivated successfully?

9. ParcInterp intends to establish "interpretive ranger" as a category of specialized training building upon the professional training of “approved nature and landscape carers” (GNL). Which arguments support that and which do not?

10. At the completion of professional training, participants’ involvement in courses extends for five weeks. Is this appropriate, reasonable and practicable?

11. Does education for sustainable development have a role in the future of educational work in protected areas?

ParcInterp Perspectives

12. It is intended 1) to run ParcInterp trainings in all protected areas, 2) to involve other institutions such as museums and zoos, 3) to develop the ParcInterp concept further across Europe. How important is each of these?

13. A quality brand for panels, trails, information centres etc. could be developed in protected areas from ParcInterp standards. To what extent would that be useful?

14. If there were the financial means to undertake research in support of ParcInterp, what research questions do you consider would be the most advantageous?

15. Which organisation or institution has the greatest opportunity of taking forward the implementation of ParcInterp standards and why?

ParcInterp – Fragebogen Schutzgebietsleiter

Im Rahmen des Partnerprojektes ParcInterp geht es in diesem Fragebogen insbesondere um die Rolle von Fortbildungen für Natur- und Kulturinterpretation und Bildung für nachhaltige Entwicklung.

Die Fragen sollen grundsätzlich so beantwortet werden, wie das mit Blick auf das eigene Schutzgebiet sinnvoll ist.
Bitte die Kästchen/Felder im Dokument anklicken/ausfüllen, das Dokument speichern und per E-Mail senden an:

mail@interp.de

Wenn sich die Kästchen nicht anklicken lassen, den Fragebogen bitte ausdrucken, dann ausfüllen und per Post senden an:

Bildungswerk interpretation
Am Rasen 23
D-37214 Werleshausen

Abkürzungen:

MA = MitarbeiterIn
BNE = Bildung für nachhaltige Entwicklung
Interpretation = Natur- und Kulturinterpretation

1. Welche Schutzgebietskategorie vertreten Sie?
☐ Nationalpark ☐ Biosphärenreservat ☐ Naturpark ☐ (Andere Einrichtung?)

Bei Fragen wie der folgenden steht der größte schwarze Punkt für „sehr viel“, der kleinste schwarze Punkt für „sehr wenig“.
Bitte klicken Sie in jeder Zeile nur eines der fünf Kästchen an.

2. Welches Handlungsfeld nimmt in Ihrem Schutzgebiet gegenwärtig wie viel Raum ein?	●	●	●	●	●
Management und Organisation	☐	☐	☐	☐	☐
Arten-, Biotop- und Prozessschutz	☐	☐	☐	☐	☐
Forschung und Monitoring	☐	☐	☐	☐	☐
Bewahrung von Kulturgütern	☐	☐	☐	☐	☐
Besucherbezogene Bildungs-, Informations- und Öffentlichkeitsarbeit	☐	☐	☐	☐	☐
Anwohnerbezogene Bildungs-, Informations- und Öffentlichkeitsarbeit	☐	☐	☐	☐	☐
Kooperation mit Partnern	☐	☐	☐	☐	☐
Regionalentwicklung	☐	☐	☐	☐	☐
(Weiteres wichtiges Handlungsfeld?)	☐	☐	☐	☐	☐

3. Wie entwickeln sich die Anforderungen in der besucherorientierten Bildungsarbeit?
☐ Nehmen zu ☐ Bleiben in etwa gleich ☐ Nehmen ab ☐ (Andere Entwicklung?)

4. Wie viele MA sind in der Bildungs-, Informations- und Öffentlichkeitsarbeit eingesetzt?	
Fest angestellte MA (ohne Ranger):	
Ranger mit >50% ihrer Arbeitszeit in diesem Bereich:	
Ranger mit 25-50% ihrer Arbeitszeit in diesem Bereich:	
Zeit- und Hilfskräfte (ggf. in volle Stellen umrechnen):	
(Weitere Kräfte?)	

5. Wie kann das Selbstvertrauen der MA – insb. aus dem Rangerdienst – gestärkt werden?	●	●	●	●	●
Fortbildungen	☐	☐	☐	☐	☐
Zertifikate	☐	☐	☐	☐	☐
Lob	☐	☐	☐	☐	☐
Auszeichnungen	☐	☐	☐	☐	☐
Beförderungen	☐	☐	☐	☐	☐
Austausch mit KollegInnen aus anderen Schutzgebieten	☐	☐	☐	☐	☐
Gegenseitige Begleitung von KollegInnen	☐	☐	☐	☐	☐
(Weitere Möglichkeit?)	☐	☐	☐	☐	☐

6. Welches Qualitätsmerkmal der Natur- und Kulturinterpretation finden Sie wie wichtig?	●	●	●	●	●
Unmittelbarer Bezug zu den Dingen vor Ort	☐	☐	☐	☐	☐
Einbeziehung der BesucherInnen	☐	☐	☐	☐	☐
Zusammenführung komplexer Zusammenhänge in Leitideen	☐	☐	☐	☐	☐
Stärkung der Verantwortung für das Natur- und Kulturerbe	☐	☐	☐	☐	☐
(Weiteres Qualitätsmerkmal?)	☐	☐	☐	☐	☐

7. Welches Qualitätsmerkmal der Bildung für nachhaltige Entwicklung finden Sie wie wichtig?	●	●	●	●	●
Natur als Lebensgrundlage thematisieren	☐	☐	☐	☐	☐
Die Idee weltweit gleichwertiger Chancen thematisieren	☐	☐	☐	☐	☐
Die Verantwortung gegenüber künftigen Generation thematisieren	☐	☐	☐	☐	☐
Ökologische, ökonomische und soziale Aspekte zusammenführen	☐	☐	☐	☐	☐
Lebensgestaltung im Sinne nachhaltiger Entwicklung greifbar machen	☐	☐	☐	☐	☐
Zwischen Bewahren und Verändern abwägen, um zukunftsfähig zu handeln	☐	☐	☐	☐	☐
Eigene Haltungen hinterfragen	☐	☐	☐	☐	☐
Lernen begleiten und Beteiligung ermöglichen	☐	☐	☐	☐	☐
Aus einer Methodenvielfalt geeignetes auswählen	☐	☐	☐	☐	☐
Informationen kritisch bewerten	☐	☐	☐	☐	☐
(Weiteres Qualitätsmerkmal?)	☐	☐	☐	☐	☐

8. Wie wichtig ist aktuell innerhalb der Informations-/Bildungsarbeit in Ihrem Schutzgebiet…	●	●	●	●	●
…Bildung für nachhaltige Entwicklung?	☐	☐	☐	☐	☐
…Natur- und Kulturinterpretation?	☐	☐	☐	☐	☐

9. Wie groß ist der aktuelle Bedarf in Ihrem Schutzgebiet…	●	●	●	●	●
…nach Fortbildungsangeboten in der Bildung für nachhaltige Entwicklung?	☐	☐	☐	☐	☐
…nach Fortbildungsangeboten in der Natur- und Kulturinterpretation?	☐	☐	☐	☐	☐

10. Wie sinnvoll ist es…	●	●	●	●	●
…Interpretation und BNE in Fortbildungsangeboten zu verbinden?	☐	☐	☐	☐	☐
…solche Fortbildungsangebote mit Zertifikaten abzuschließen?	☐	☐	☐	☐	☐

11. Welche der folgenden Schwierigkeiten sind in Bezug auf Trainingsangebote wie groß?	●	●	●	●	●
Die MA im Bereich Informations- und Bildungsarbeit haben kaum Zeit für Fortbildungen.	☐	☐	☐	☐	☐
Die MA in diesem Bereich sind im Durchschnitt zu alt.	☐	☐	☐	☐	☐
Bei den MA in diesem Bereich handelt es sich vorrangig um Zeit- und Hilfskräfte.	☐	☐	☐	☐	☐
Die MA in diesem Bereich sind gegenüber Fortbildungen generell wenig aufgeschlossen.	☐	☐	☐	☐	☐
Die MA in diesem Bereich wissen zu wenig über Fortbildungen zu BNE und Interpretation.	☐	☐	☐	☐	☐
Fortbildungen zu BNE und Interpretation bringen die MA in diesem Bereich nicht weiter.	☐	☐	☐	☐	☐
Für die Teilnahme an Fortbildungen sind kaum Finanzmittel vorhanden.	☐	☐	☐	☐	☐
(Weitere Schwierigkeit?)	☐	☐	☐	☐	☐

12. Was begünstigt die Einführung von bundesweiten Standards in welchem Umfang?	●	●	●	●	●
Einarbeitung in schon bestehende bundesweite Kriterienkataloge	☐	☐	☐	☐	☐
Integration in die Schutzgebietspläne	☐	☐	☐	☐	☐
Unterstützung durch das BMU (BfN)	☐	☐	☐	☐	☐
Förderung der Kommunikation in die Schutzgebiete (bspw. durch EUROPARC)	☐	☐	☐	☐	☐
Einführung in Schutzgebieten anderer europäischer Länder	☐	☐	☐	☐	☐
Sammlung von Beispielen guter Praxis in den Schutzgebieten	☐	☐	☐	☐	☐
wissenschaftliche Forschungsarbeiten zur Wirksamkeit	☐	☐	☐	☐	☐
(Weiterer Vorschlag?)	☐	☐	☐	☐	☐

13.	●	●	●	●	●
Wie groß ist Ihr Wissen zu ParcInterp?	☐	☐	☐	☐	☐

14. Kennen Sie außer ParcInterp weitere Programme und Trainings zur Natur- und Kulturinterpretation?	
☐ Nein	☐ Ja, nämlich:

15. Bislang hat in den Schutzgebieten kaum Austausch zu ParcInterp stattgefunden. Warum?	●	●	●	●	●
Mangelnde Information	☐	☐	☐	☐	☐
Mangelndes Interesse	☐	☐	☐	☐	☐
Anderes ist wichtiger	☐	☐	☐	☐	☐
(Weiterer Grund?)	☐	☐	☐	☐	☐

16. Welche Inhalte aus den ParcInterp-Trainingskursen halten Sie für wie wichtig?	●	●	●	●	●
Besucherführung	☐	☐	☐	☐	☐
Kollegiale Begleitung	☐	☐	☐	☐	☐
Tagesprogramme für Schulklassen	☐	☐	☐	☐	☐
Erarbeiten von Tafeltexten	☐	☐	☐	☐	☐
Gestalten von Tafeln, Hör- und Aktionselementen	☐	☐	☐	☐	☐
Planen von Pfaden, Räumen und Zentren	☐	☐	☐	☐	☐
Anfertigen von Beschreibungen zur Vergabe entsprechender Leistungen	☐	☐	☐	☐	☐
Evaluation von besucherorientierten Bildungsmaßnahmen	☐	☐	☐	☐	☐

17. Was ist in Bezug auf die Organisation von ParcInterp-Fortbildungen wie wichtig?	●	●	●	●	●
Dass die Fortbildungen in den Schutzgebieten stattfinden, in denen die MA arbeiten.	☐	☐	☐	☐	☐
Dass die MA zur Fortbildung aus ihrem eigenen Schutzgebiet herauskommen.	☐	☐	☐	☐	☐
Dass die Fortbildungen nicht während der Saison stattfinden.	☐	☐	☐	☐	☐
Dass die Fortbildungsgruppen aus MA aus der gleichen Schutzgebietskategorie bestehen.	☐	☐	☐	☐	☐
Dass ein zeitlicher Vorlauf von etwa einem Jahr gegeben ist.	☐	☐	☐	☐	☐
(Weiterer Punkt?)	☐	☐	☐	☐	☐

18. Ist das ParcInterp-Fortbildungssystem in Ihrem Schutzgebiet grundsätzlich anwendbar?	
☐ Ja	☐ Nein, dafür müsste es…

19. Wie groß sind - bei angemessenem Planungsvorlauf - die folgenden Hürden?	●	●	●	●	●
Kostenaufwand (insg. ca. 1.000 € pro Mitarbeiter über ca. drei Jahre)	☐	☐	☐	☐	☐
Freistellung der MA (ca. fünf Arbeitswochen über ca. drei Jahre)	☐	☐	☐	☐	☐
Bereitstellung der Räume (ein bis zwei Seminarräume in ca. fünf Wochen über ca. drei Jahre)	☐	☐	☐	☐	☐
Dauerhafte Absicherung des erreichten Niveaus (z. B. Organisation kollegialer Begleitung)	☐	☐	☐	☐	☐
(Weiterer Vorschlag?)	☐	☐	☐	☐	☐

20. Wer kann ParcInterp in welchem Umfang voranbringen?	●	●	●	●	●
Akademien der Länder	☐	☐	☐	☐	☐
Naturschutzverbände	☐	☐	☐	☐	☐
Bundesamt für Naturschutz	☐	☐	☐	☐	☐
Europarc Deutschland	☐	☐	☐	☐	☐
Verband Deutscher Naturparke (VDN)	☐	☐	☐	☐	☐
Bundesverband Naturwacht	☐	☐	☐	☐	☐
Arbeitsgemeinschaft Natur- und Umweltbildung (ANU)	☐	☐	☐	☐	☐

Hochschulen	☐	☐	☐	☐	☐
(Weiterer Akteur?)	☐	☐	☐	☐	☐

21. Was behindert die Einführung der ParcInterp-Standards in welchem Umfang?	●	●	●	●	●
Es kostet MA Überwindung, neue Wege einzuschlagen.	☐	☐	☐	☐	☐
MA zeigen allgemein wenig Bereitschaft zur Fortbildung.	☐	☐	☐	☐	☐
MA sind schon durch andere Aufgaben ausgelastet.	☐	☐	☐	☐	☐
Das Konzept der Interpretation ist zu wenig bekannt.	☐	☐	☐	☐	☐
(Weiterer Vorschlag?)	☐	☐	☐	☐	☐

22. Was könnte die Einführung der ParcInterp-Standards in welchem Umfang fördern?	●	●	●	●	●
Mehr Fortbildungsangebote	☐	☐	☐	☐	☐
Einbeziehung weiterer Partner (außer Europarc, Bundesverband Naturwacht und ANU)	☐	☐	☐	☐	☐
Allgemeine Stärkung des Rangerberufs	☐	☐	☐	☐	☐
Austausch mit anderen Schutzgebieten	☐	☐	☐	☐	☐
Herausstellen der Vorteile für die Schutzgebiete	☐	☐	☐	☐	☐
Externe Fördermittel	☐	☐	☐	☐	☐
(Weiterer Vorschlag?)	☐	☐	☐	☐	☐

ParcInterp – Questionnaire for Park Managers

In the context of the partnership project ParcInterp, this questionnaire focuses particularly on the role of training for heritage interpretation and education for sustainable development.

Questions should be answered in relation to your own protected area. Please tick the boxes / complete the fields in the document, save the document and e-mail it to:

mail@interp.de

If the boxes are not clickable, please print out the questionnaire, then fill it out and send it by mail to:

Bildungswerk interpretation
Am Rasen 23
D-37214 Werleshausen

Abbreviations:

ESD = Education for Sustainable Development
Interpretation = Heritage Interpretation

1. Which protected area category do you represent?
☐ national park ☐ biosphere reserve ☐ nature park ☐ (other facility?)

For questions in the following table, the largest dot means "very much", the smallest means "very little".
Please click only one of the five boxes on each line.

2. Which fields of action are currently part of managing your protected area?	●	●	●	●	●
general management and organisation	☐	☐	☐	☐	☐
protection of species, biotopes and processes	☐	☐	☐	☐	☐
research and monitoring	☐	☐	☐	☐	☐
conservation of cultural assets	☐	☐	☐	☐	☐
visitor-related education, information and public relations	☐	☐	☐	☐	☐
resident-related education, information and public relations	☐	☐	☐	☐	☐
cooperation with partners	☐	☐	☐	☐	☐
regional development	☐	☐	☐	☐	☐
(other important field of action?)	☐	☐	☐	☐	☐

3. How are the requirements for visitor-related education changing?
☐ increasing ☐ staying about the same ☐ decreasing ☐ (other development?)

4. How many members of staff are employed in education, information and public relations?	
permanent staff without rangers:	
rangers with >50% of their work in this area:	
rangers with 25-50% of their work in this area:	
temporary staff (possibly converting to full-time positions):	
(other staff?):	

5. How can the self-esteem and confidence of staff (especially rangers) be strengthened?	●	●	●	●	●
vocational training	☐	☐	☐	☐	☐
certificates	☐	☐	☐	☐	☐
praise and recognition	☐	☐	☐	☐	☐
awards	☐	☐	☐	☐	☐
professional promotion	☐	☐	☐	☐	☐
awards, for instance certificates for courses etc	☐	☐	☐	☐	☐
exchange with colleagues from other protected areas	☐	☐	☐	☐	☐
peer coaching	☐	☐	☐	☐	☐
(other possibilities?)	☐	☐	☐	☐	☐

6. Which quality criteria for heritage interpretation are important, and how important are they?	●	●	●	●	●
direct relation to objects on site	☐	☐	☐	☐	☐
involvement of visitors	☐	☐	☐	☐	☐
merging complex relationships in themes	☐	☐	☐	☐	☐
strengthening responsibility for natural and cultural heritage	☐	☐	☐	☐	☐
(other quality criterion?)	☐	☐	☐	☐	☐

7. Which quality criteria of ESD are important, and how important are they?	●	●	●	●	●
Identifying themes for nature as a basis for life	☐	☐	☐	☐	☐
Identifying themes for the idea of equal global opportunities	☐	☐	☐	☐	☐
Identifying themes for emphasising the responsibility to future generations	☐	☐	☐	☐	☐
bringing together ecological, economic and social aspects	☐	☐	☐	☐	☐
making sustainable lifestyles tangible	☐	☐	☐	☐	☐
balancing between conservation and change to act sustainably	☐	☐	☐	☐	☐
questioning own attitudes	☐	☐	☐	☐	☐
accompanying learning and allowing participation	☐	☐	☐	☐	☐
choosing from a variety of suitable methods	☐	☐	☐	☐	☐
evaluating information critically	☐	☐	☐	☐	☐
(other quality criterion?)	☐	☐	☐	☐	☐

8. How important are the following within information and educational work in your protected area?	●	●	●	●	●
education for sustainable development	☐	☐	☐	☐	☐
heritage interpretation	☐	☐	☐	☐	☐

9. How big is the current demand in your protected area...	●	●	●	●	●
…for vocational training in education for sustainable development?	☐	☐	☐	☐	☐
…for vocational training in heritage interpretation?	☐	☐	☐	☐	☐

10. How far does it make sense…	●	●	●	●	●
…to connect vocational training for heritage interpretation and ESD?	☐	☐	☐	☐	☐
…to complete such vocational training offers with certificates?	☐	☐	☐	☐	☐

11. Which of the following problems are relevant, and how relevant are they, in terms of training?	●	●	●	●	●
Members of staff in information and education have little time for training.	☐	☐	☐	☐	☐
The average age of members of staff in this field is too high.	☐	☐	☐	☐	☐
Members of staff in this field have mainly temporary employment contracts.	☐	☐	☐	☐	☐
Members of staff in this field are generally not very open to vocational training.	☐	☐	☐	☐	☐
Members of staff in this field do not know enough about training in interpretation and ESD.	☐	☐	☐	☐	☐
Vocational training in interpretation and ESD does not help members of staff in this field.	☐	☐	☐	☐	☐
There are inadequate financial means for vocational training.	☐	☐	☐	☐	☐
(other problem?)	☐	☐	☐	☐	☐

12. What encourages the implementation of nationwide standards and to what extent?	●	●	●	●	●
incorporation into already existing nationwide sets of criteria	☐	☐	☐	☐	☐
incorporation into management plans for protected areas	☐	☐	☐	☐	☐
support by the Federal Ministry of Environment (Federal Agency for Nature Conservation)	☐	☐	☐	☐	☐
advancement of communication with the protected areas (e.g. through EUROPARC)	☐	☐	☐	☐	☐
implementation in protected areas of other European countries	☐	☐	☐	☐	☐
collection of examples of good practice from protected areas	☐	☐	☐	☐	☐
scientific research on the effectiveness of interpretation	☐	☐	☐	☐	☐
(other suggestion?)	☐	☐	☐	☐	☐

13.	●	●	●	●	●
How deep is your knowledge of ParcInterp?	☐	☐	☐	☐	☐

14. Do you know programmes and training offers for heritage interpretation other than ParcInterp?	
☐ No	☐ Yes, namely:

15. So far, there was not been much exchange of information about ParcInterp within protected areas. Why?	●	●	●	●	●
lack of information	☐	☐	☐	☐	☐
lack of interest	☐	☐	☐	☐	☐
other subjects are more important	☐	☐	☐	☐	☐
(other reason?)	☐	☐	☐	☐	☐

16. What content from the ParcInterp training courses do you consider important and how important is it?	●	●	●	●	●
guiding of visitors	☐	☐	☐	☐	☐
peer coaching	☐	☐	☐	☐	☐
day programmes for school classes	☐	☐	☐	☐	☐
compiling text for panels	☐	☐	☐	☐	☐
designing panels, audio elements and interactive elements	☐	☐	☐	☐	☐
planning of trails, spaces and centres	☐	☐	☐	☐	☐
developing invitations to tender in this respect	☐	☐	☐	☐	☐
evaluation of educational activities for visitors	☐	☐	☐	☐	☐

17. What is important, and how important are the following, in terms of the organisation of ParcInterp training?	●	●	●	●	●
training courses take place in the protected areas where the participants work	☐	☐	☐	☐	☐
the participants have the possibility to get out from their own protected areas for training	☐	☐	☐	☐	☐
training courses do not take place during season	☐	☐	☐	☐	☐
a training course consists of participants from the same protected area category	☐	☐	☐	☐	☐
there is a lead time of about one year	☐	☐	☐	☐	☐
(other point?)	☐	☐	☐	☐	☐

18. Is the ParcInterp training system generally applicable in your protected area?	
☐ Yes	☐ No, it would have to be…

19. How big - with reasonable pre-planning – are the following hurdles?	●	●	●	●	●
costs (in total, about € 1,000 per employee over approximately three years)	☐	☐	☐	☐	☐
release of employees (about five weeks in total over three years)	☐	☐	☐	☐	☐
provision of facilities (one to two seminar rooms for about five weeks in total over three years)	☐	☐	☐	☐	☐
permanent viability of the attained training level (e.g. by peer coaching)	☐	☐	☐	☐	☐
(other suggestion?)	☐	☐	☐	☐	☐

20. Who can advance ParcInterp and to what extent?	●	●	●	●	●
academies of the *Bundesländer*	☐	☐	☐	☐	☐
associations for nature protection	☐	☐	☐	☐	☐
Federal Agency for Nature Conservation	☐	☐	☐	☐	☐
Europarc Germany	☐	☐	☐	☐	☐
German Association of Nature Parks (VDN)	☐	☐	☐	☐	☐
German Ranger Association	☐	☐	☐	☐	☐

Association for Natural and Environmental Education (ANU)	☐	☐	☐	☐	☐
universities	☐	☐	☐	☐	☐
(other actor?)	☐	☐	☐	☐	☐

21. What is hindering the implementation of ParcInterp standards and to what extent?	●	●	●	●	●
employees have to force themselves to strike new paths.	☐	☐	☐	☐	☐
employees are generelly not very open to vocational training.	☐	☐	☐	☐	☐
employees are already busy with other tasks.	☐	☐	☐	☐	☐
the interpretive approach is not known well enough.	☐	☐	☐	☐	☐
(other suggestion?)	☐	☐	☐	☐	☐

22. What could encourage the implementation of ParcInterp standards and to what extent?	●	●	●	●	●
more offers for vocational training	☐	☐	☐	☐	☐
inclusion of other partners (except Europarc, German Ranger Association and ANU)	☐	☐	☐	☐	☐
general strengthening of the ranger profession	☐	☐	☐	☐	☐
exchange with other protected areas	☐	☐	☐	☐	☐
pointing out the advantages for the protected areas	☐	☐	☐	☐	☐
external financial means	☐	☐	☐	☐	☐
(other suggestion?)	☐	☐	☐	☐	☐

Questionnaire for Park Managers with Codes, Numbers of Response and Mean Ratings

The questionnaire focused particularly on the role of training for heritage interpretation and education for sustainable development in the context of the partnership project ParcInterp. Questions should be answered by the park managers in relation to their own protected area.

For all Likert scale questions, the largest dot means "very much" or 5, the smallest dot means "very little" or 1. According to this the average is calculated.

Underlining indicates a significantly high average (4 and above).
Italic text indicates a significantly low average (2 and below).
Grey shading indicates that there was at least one remark in answer to that question (documented in the raw data matrix)

Where two adjacent boxes were ticked (which happened twice) the higher value was taken and it was mentioned among the remarks.

Q1 - Which protected area category do you represent?				n
national park: **11**	biosphere reserve: **11**	nature park: **6**	(other facility?): see remark below	**28**

Questionnaires were also returned by one geo park and by one nature reserve. Both were not taken into consideration.

Q2 - Which fields of action are currently part of managing your protected area?	●	●	●	●	●	∅	n
Q2_1	general management and organisation	**12**	**10**	**5**	**1**	**0**	**4.2**	**28**
Q2_2	protection of species, biotopes and processes	**6**	**8**	**7**	**6**	**1**	**3.4**	**28**
Q2_3	research and monitoring	**2**	**6**	**8**	**8**	**4**	**2.8**	**28**
Q2_4	conservation of cultural assets	**1**	**2**	**5**	**6**	**13**	***2.0***	**27**
Q2_5	visitor-related education, information and public relations	**11**	**11**	**6**	**0**	**0**	**4.2**	**28**
Q2_6	resident-related education, information and public relations	**7**	**11**	**5**	**5**	**0**	**3.7**	**28**
Q2_7	cooperation with partners	**8**	**13**	**5**	**1**	**1**	**3.9**	**28**
Q2_8	regional development	**6**	**10**	**9**	**2**	**1**	**3.6**	**28**
Q2_9	other important fields of action: environmental education (rating: 3), climate protection (rating: 3), responsibilities in the surrounding protected landscape area (rating: 4), visitor management (rating: 4), barrier-free services (rating: 3)							

Q3 - How are the requirements for visitor-related education changing?				∅	n
1 - increasing: **22**	2 - staying about the same: **6**	3 - decreasing: **0**	(other development?): **0**	**1.2**	**28**

Q4 - How many members of staff are employed in education, information and public relations?		∅	n
Q4_1	permanent staff without rangers: **ranging between 0.5 and 22.0**	**4.8**	**28**
Q4_2	rangers with >50% of their work in this area: **ranging between 0.0 and 40.0**	**3.9**	**28**
Q4_3	rangers with 25-50% of their work in this area: **ranging between 0.0 and 23.0**	**5.0**	**28**
Q4_4	temporary staff (possibly converting to full-time positions): **ranging between 0.0 and 26.0**	**3.0**	**28**
Q4_5	other staff: ZNL (about 3,000 hours in 2012), certified forest guides (about 100)		

Q5 - How can the self-esteem and confidence of staff (especially rangers) be strengthened?	●	●	●	●	●	Ø	n
Q5_1 vocational training	**11**	**10**	**5**	**0**	**0**	**4,2**	**26**
Q5_2 certificates	**1**	**7**	**9**	**6**	**2**	**3,0**	**25**
Q5_3 praise and recognition	**15**	**7**	**3**	**1**	**0**	**4,4**	**26**
Q5_4 awards	**2**	**7**	**9**	**5**	**0**	**3,3**	**23**
Q5_5 professional promotion	**5**	**9**	**4**	**2**	**2**	**3,6**	**22**
Q5_6 exchange with colleagues from other protected areas	**8**	**11**	**5**	**2**	**0**	**4,0**	**26**
Q5_7 peer coaching	**5**	**6**	**7**	**5**	**1**	**3,4**	**24**
Q5_8 other possibilities: structural safety of the embeddedness within the protected area management, recognition of the tasks (rating: 4)							

Q6 - Which quality criteria for heritage interpretation are important, and how important are they?	●	●	●	●	●	Ø	n
Q6_1 direct relation to objects on site	**22**	**6**	**0**	**0**	**0**	**4,8**	**28**
Q6_2 involvement of visitors	**17**	**9**	**2**	**0**	**0**	**4,5**	**28**
Q6_3 merging complex relationships in themes	**4**	**14**	**6**	**3**	**0**	**3,7**	**27**
Q6_4 strengthening responsibility for natural and cultural heritage	**13**	**10**	**4**	**0**	**0**	**4,3**	**27**
Q6_5 other quality criterion: positive, joyful communication of the relationship to nature - touching the emotion level (rating: 4)							

Q7 - Which quality criteria of ESD are important, and how important are they?	●	●	●	●	●	Ø	n
Q7_1 identifying themes for nature as a basis for life	**19**	**8**	**1**	**0**	**0**	**4,6**	**28**
Q7_2 identifying themes for the idea of equal global opportunities	**5**	**6**	**9**	**6**	**0**	**3,4**	**26**
Q7_3 identifying themes for emphasising the responsibility to future generations	**18**	**7**	**2**	**0**	**0**	**4,6**	**27**
Q7_4 bringing together ecological, economic and social aspects	**13**	**10**	**3**	**2**	**0**	**4,2**	**28**
Q7_5 making sustainable lifestyles tangible	**14**	**3**	**8**	**2**	**0**	**4,1**	**27**
Q7_6 balancing between conservation and change to act sustainably	**7**	**10**	**7**	**2**	**1**	**3,7**	**27**
Q7_7 questioning own attitudes	**10**	**12**	**6**	**0**	**0**	**4,1**	**28**
Q7_8 accompanying learning and allowing participation	**12**	**9**	**4**	**2**	**0**	**4,1**	**27**
Q7_9 choosing from a variety of suitable methods	**7**	**10**	**6**	**2**	**2**	**3,7**	**27**
Q7_10 evaluating information critically	**8**	**10**	**8**	**1**	**0**	**3,9**	**27**
Q7_11 other quality criterion: no data							

Q8 - How important are the following within information and educational work in your protected area?	●	●	●	●	●	Ø	n
Q8_1 education for sustainable development	**14**	**6**	**5**	**2**	**0**	**4,2**	**27**
Q8_2 heritage interpretation	**5**	**7**	**10**	**5**	**0**	**3,4**	**27**

Q9 - How big is the current demand in your protected area...	●	●	●	●	●	Ø	n
Q9_1 …for vocational training in education for sustainable development?	**6**	**7**	**11**	**2**	**1**	**3,6**	**27**
Q9_2 …for vocational training in heritage interpretation?	**5**	**4**	**13**	**5**	**0**	**3,3**	**27**

Q10 - How far does it make sense…						Ø	n
Q10_1	…to connect vocational training for heritage interpretation and ESD?	**11**	**8**	**7**	**2**	**0**	**4,0**	**28**
Q10_2	…to complete such vocational training offers with certificates?	**4**	**8**	**6**	**9**	**1**	**3,2**	**28**

Q11 - Which of the following problems are relevant, and how relevant are they, in terms of training?						Ø	n
Q11_1	Members of staff in information and education have little time for training.	**2**	**8**	**8**	**8**	**1**	**3,1**	**27**
Q11_2	The average age of members of staff in this field is too high.	**2**	**4**	**5**	**4**	**12**	**2,3**	**27**
Q11_3	Members of staff in this field have mainly temporary employment contracts.	**1**	**0**	**2**	**4**	**19**	***1,5***	**26**
Q11_4	Members of staff in this field are generally not very open to vocational training.	**0**	**1**	**5**	**8**	**13**	***1,8***	**27**
Q11_5	Members of staff in this field do not know enough about training in interpretation and ESD.	**1**	**2**	**9**	**5**	**10**	**2,2**	**27**
Q11_6	Vocational training in interpretation and ESD does not help members of staff in this field.	**0**	**2**	**7**	**4**	**14**	***1,9***	**27**
Q11_7	There are inadequate financial means for vocational training.	**4**	**4**	**7**	**5**	**7**	**2,7**	**27**
Q11_8	other problems: permanent staff has already gone through this training, to temporary employees it is passed on during the systematic training phase (rating: 5), subsequent implementation of the contents (rating: 4)							

Q12 - What encourages the implementation of nationwide standards and to what extent?						Ø	n
Q12_1	incorporation into already existing nationwide sets of criteria	**11**	**8**	**3**	**3**	**2**	**3,9**	**27**
Q12_2	incorporation into management plans for protected areas	**6**	**8**	**8**	**5**	**1**	**3,5**	**28**
Q12_3	support by the Federal Ministry of Environment (Federal Agency for Nature Conservation)	**6**	**6**	**10**	**4**	**2**	**3,4**	**28**
Q12_4	advancement of communication with the protected areas (e.g. through EUROPARC)	**9**	**10**	**8**	**0**	**1**	**3,9**	**28**
Q12_5	implementation in protected areas of other European countries	**0**	**3**	**12**	**4**	**9**	**2,3**	**28**
Q12_6	collection of examples of good practice from protected areas	**9**	**9**	**9**	**1**	**0**	**3,9**	**28**
Q12_7	scientific research on the effectiveness of interpretation	**3**	**8**	**8**	**3**	**6**	**3,0**	**28**
Q12_8	other suggestions: no data							

Q13						Ø	n
How deep is your knowledge of ParcInterp?	**3**	**4**	**7**	**11**	**3**	**2,8**	**28**

Q14 - Do you know programmes and training offers for heritage interpretation other than ParcInterp?			
1 No: **20**	**2** Yes: **7** - namely	Naturinterpretation Lüneburger Heide offers of single providers from the surroundings, e.g. Prof. Dr. Heidi Megerle BANU training of regional ZNL, project TOPAS TOPAS (informally) Bildungswerk interpretation, Thorsten Ludwig Joseph Cornell seminars	**1,3**	**27**

Q15 - So far, there was not been much exchange of information about ParcInterp within protected areas. Why?	●	●	●	●	●	Ø	n
Q15_1 lack of information	**10**	**3**	**9**	**2**	**2**	**3,7**	**26**
Q15_2 lack of interest	**2**	**0**	**8**	**7**	**8**	**2,2**	**25**
Q15_3 other subjects are more important	**6**	**10**	**7**	**1**	**1**	**3,8**	**25**
Q15_4 other reasons: daily business is eating me (rating: 5), too many tasks - not enough time (rating: 5), within a project an own initiative to connect ESD with the learning area "vacation and recreation" has just started (rating: 5), has taken place (rating: 5)							

Q16 - What content from the ParcInterp training courses do you consider important and how important is it?	●	●	●	●	●	Ø	n
Q16_1 guiding of visitors	**16**	**10**	**2**	**0**	**0**	**4,5**	**28**
Q16_2 peer coaching	**8**	**7**	**9**	**4**	**0**	**3,7**	**28**
Q16_3 day programmes for school classes	**8**	**13**	**5**	**1**	**1**	**3,9**	**28**
Q16_4 compiling text for panels	**2**	**3**	**11**	**7**	**4**	**2,7**	**27**
Q16_5 designing panels, audio elements and interactive elements	**4**	**5**	**13**	**2**	**4**	**3,1**	**28**
Q16_6 planning of trails, spaces and centres	**5**	**6**	**9**	**2**	**6**	**3,1**	**28**
Q16_7 developing invitations to tender in this respect	**4**	**5**	**4**	**6**	**9**	**2,6**	**28**
Q16_8 evaluation of educational activities for visitors	**10**	**7**	**6**	**5**	**0**	**3,8**	**28**

Q17 - What is important, and how important are the following, in terms of the organisation of ParcInterp training?	●	●	●	●	●	Ø	n
Q17_1 training courses take place in the protected areas where the participants work	**9**	**11**	**4**	**2**	**1**	**3,9**	**27**
Q17_2 the participants have the possibility to get out from their own protected areas for training	**1**	**5**	**8**	**7**	**6**	**2,6**	**27**
Q17_3 training courses do not take place during season	**17**	**4**	**6**	**0**	**0**	**4,4**	**27**
Q17_4 a training course consists of participants from the same protected area category	**7**	**3**	**6**	**3**	**8**	**2,9**	**27**
Q17_5 there is a lead time of about one year	**10**	**3**	**5**	**6**	**3**	**3,4**	**27**
Q17_6 other points: That participants carry out the same or similar tasks (rating: 5)							

Q18 - Is the ParcInterp training system generally applicable in your protected area?			Ø	n
1 Yes: **24**	**2** No: **3** - it would	require rangers for that require more staff! We usually work with regional personnel, such as ZNL, who perform guided walks. Our staff in education and public relations has more a coordinating role. There is also just one ranger who must also carry out many other tasks besides guided tours.	**1,1**	**27**

Q19 - How big - with reasonable pre-planning – are the following hurdles?	●	●	●	●	●	Ø	n
Q19_1 costs (in total, about € 1,000 per employee over approximately three years)	**8**	**7**	**7**	**2**	**1**	**3,8**	**25**
Q19_2 release of employees (about five weeks in total over three years)	**8**	**7**	**6**	**2**	**2**	**3,7**	**25**
Q19_3 provision of facilities (one to two seminar rooms for about five weeks in total over three years)	**2**	**2**	**8**	**6**	**8**	**2,4**	**26**
Q19_4 permanent viability of the attained training level (e.g. by peer coaching)	**0**	**9**	**13**	**0**	**4**	**3,0**	**26**
Q19_5 other suggestions: no data							

Q20 - Who can advance ParcInterp and to what extent?	●	●	●	●	●	Ø	n
Q20_1 academies of the *Bundesländer*	**9**	**6**	**7**	**3**	**1**	**3,7**	**26**
Q20_2 associations for nature protection	**1**	**2**	**8**	**6**	**8**	**2,3**	**25**
Q20_3 Federal Agency for Nature Conservation	**10**	**3**	**7**	**1**	**3**	**3,7**	**24**
Q20_4 Europarc Germany	**12**	**3**	**7**	**2**	**2**	**3,8**	**26**
Q20_5 German Association of Nature Parks (VDN)	**4**	**5**	**6**	**3**	**6**	**2,9**	**24**
Q20_6 German Ranger Association	**6**	**3**	**10**	**2**	**4**	**3,2**	**25**
Q20_7 Association for Natural and Environmental Education (ANU)	**5**	**7**	**11**	**2**	**0**	**3,6**	**25**
Q20_8 universities	**1**	**4**	**9**	**3**	**8**	**3,5**	**25**
Q20_9 other actors: no data							

Q21 - What is hindering the implementation of ParcInterp standards and to what extent?	●	●	●	●	●	Ø	n
Q21_1 employees have to force themselves to strike new paths.	**1**	**6**	**8**	**6**	**6**	**2,6**	**27**
Q21_2 employees are generelly not very open to vocational training.	**0**	**2**	**4**	**8**	**12**	***1,8***	**26**
Q21_3 employees are already busy with other tasks.	**8**	**11**	**6**	**1**	**0**	**4,0**	**26**
Q21_4 the interpretive approach is not known well enough.	**9**	**6**	**10**	**1**	**0**	**3,9**	**26**
Q21_5 other suggestions: no data							

Q22 - What could encourage the implementation of ParcInterp standards and to what extent?	●	●	●	●	●	Ø	n
Q22_1 more offers for vocational training	**4**	**7**	**15**	**0**	**2**	**3,4**	**28**
Q22_2 inclusion of other partners (except Europarc, German Ranger Association and ANU)	**3**	**6**	**12**	**4**	**3**	**3,1**	**28**
Q22_3 general strengthening of the ranger profession	**14**	**7**	**5**	**1**	**0**	**4,3**	**27**
Q22_4 exchange with other protected areas	**9**	**11**	**6**	**2**	**0**	**4,0**	**28**
Q22_5 pointing out the advantages for the protected areas	**13**	**3**	**11**	**0**	**1**	**4,0**	**28**
Q22_6 external financial means	**16**	**5**	**4**	**1**	**1**	**4,3**	**27**
Q22_7 other suggestions: no data							