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# Under our own steam

## 'Sustainable residential experiences' what exactly do we mean?

**D**o we mean green methods of travel? Living lightly? Learning how to be sustainable citizens? Or perhaps we are talking about experiences that can be carried forward by the participants independently at a later date?

I would like to tell you about a sustainable residential that, if we were talking about ticking boxes (which we often have to), ticked all of the above.

I hold my hands up, this particular school is lucky enough to be located on the edge of the Lake District, but journeying with younger children here brings its own challenges: tourist traffic, steep, rough terrain and large windy lakes. However in all other ways it has the same challenges as schools anywhere: keeping costs down, ensuring risks are manageable for staff and pupils while still offering challenging experiences; and organising the inevitable myriad of detail involved in taking children outside the classroom.

The story begins with a headteacher, Ian Nicol, with a background in outdoor education and a school which, as a result, provides a steady development in outdoor learning, which starts in Reception and builds steadily throughout their Primary Education.

### The story begins

On an icy winter's day when the year 3 and 4 children had just come back buzzing from a day's adventure in partnership with a local secondary school, Mr Nicol ventured his idea for the year 5 and 6 residential. My first thought was 'wow,'this is exactly what I would want my child to experience.' As he talked through

the finer details, I realised that although the logistics were rather mind blowing, it was actually possible to incorporate all parts of this quite ambitious plan.

So what was this great plan? Like the best plans it started with a number of objectives:

- **The children should undertake a sustainable journey utilising local transport and the local area.**
- **They should perceive that this was a great adventure and that it would have a wild camp element. This journey should be achieved through their own efforts.**
- **They should have an opportunity to care for and have a responsibility for younger children as well as passing on skills.**
- **To progress previous 'taster' experiences the children have had: extending learning and avoiding just making things bigger, faster, higher.**
- **To provide a 'real' purpose and opportunity to use skills and learning they have gained in the past.**

### *The wild camp element*



Outdoor Education

The plan necessitated some training in the months leading up to it. It began with all the children completing their Bikeability Level 2 on a cold and frosty week in February. Off-road skills were honed during a day in Grizedale Forest later in the spring. Not all the children could ride a bike and some had had limited opportunity to use their bikes beyond their own street due to the somewhat hilly nature of our local area.

The overnight camp required some in depth training on the use of stoves for cooking as well as practising putting up and taking down tents. The children also talked about and explored keeping healthy, hygiene, diet including deciding what to eat and very importantly responsible toileting when in the wild.

## The reality

The plan actually translated very well into reality, mainly down to some meticulous planning. If you are sitting comfortably, I would like to tell you a little about it, starting not as is traditional at the beginning, but near to the end.

*The sun was sinking slowly into the horizon, the water reflecting the huge orange orb clinging on to the last of the warmth of a perfect summer's day...*

Waxing lyrical? Well why not? This particular picture was the penultimate scene in the story. In the foreground was the lake shore of Rydal Water; silhouetted against that backdrop Leven Valley's year 5/6 children had their heads bowed listening to our voices as we led them through a visualisation – the journey of their week away. The lows and highs, the tears and laughter, the hopes and fears. When our voices came to an end the children remained quiet and reflective for a period, then in their own time they came bubbling over to where we sat, brimming with enthusiasm, thoughts and memories.

Through feedback such as this from the children as well as from parents and staff we are satisfied that our objectives were met. Let the rest of the story be told through these objectives.

- **To undertake a sustainable journey utilising local transport and the local area**

This worked on many levels. By using local transport, costs were kept down, especially as local enterprises can often be persuaded to support local people and are willing to give subsidies; the children really felt they were making the journey under their own steam. Then of course there are the issues of sustainable travel and the realisation that you can get from A to B without using a car.

- **A perception that they are undertaking a great adventure with wild camp element.**
- **Achieve this journey through their own efforts**

I defy any child to deny that catching a steam train to a lake, then canoeing or sailing for most of the day to a deserted beach then putting up your own tent and cooking your own food was not adventurous. Of course the reality is that there is a road 5 minutes away with back up should it be needed and a safety boat to tow them if they get to tired (but they don't know that).

The wild camp element was one of the most rewarding parts of the residential, the children had to be self reliant. Resources such as fresh water were finite, personal equipment more important than ever before. Children put aside fussiness, making comments such as 'this tastes just like real food!' They had to think about things such as portion control, hygiene, where is the prevailing wind and what should we do with any rubbish?



*...sun sinking slowly....*

For these children the wild camp offered the opportunity to think about things they wouldn't otherwise think about. How much water do they use? How do you go to the toilet in the great outdoors and do I need to go to bed now?

In the morning the adults were startled but pleased to witness children quietly and without fuss packing up their clothes, sleeping bags and tents ready for breakfast without being asked in anticipation of the new day.

- **Achieve this journey through their own efforts**

Personally my old muscles ached by Tuesday as we had been paddling against a head wind all the previous day. Children however are made of sturdier stuff and for many the opportunity to cycle as part of the journey was the highlight. The excess luggage was kindly collected at the





<< rendezvous and swapped for bikes before heading off along tracks, through streams and over small obstacles until landing exhausted, but happy, at their destination. Back into relative civilisation they revelled in simple luxuries such as flushable toilets and hot showers.

Friday's self reliant journey was going to demand some basic navigation skills; Wednesday therefore involved a mountain walk from Rydal Hall on the fells above Grasmere with a few little scrambles finishing with yet another form of transport, the local bus. Interestingly this gave completely different children an opportunity to excel, taking it in turns to lead and map read, whilst ensuring that the rest didn't get left behind. The reward for their efforts? Looking down on their journey of the last few days and seeing the distance they had travelled.

- **An experience that would be shared with the whole school with opportunity to care and pass on skills and have a responsibility to younger children.**



*..canoeing or sailing for most of the day to a deserted beach....*

Involving the children throughout the school had been a key aim as this perpetuates the feeling that the school is one big family, an attribute on which it prides itself, and demystifies the residential so the children are familiar with it before they come. The year 5 and 6 children planned and implemented a carousel of teamwork and environmental activities for the younger children. They took it in turns to lead the activity, changing leaders on rotation. Their caring attitude and responsible maturity is exactly the outcome that was hoped for.

- **To progress previous 'taster' experiences the children have had: extending learning and avoiding just making things bigger, faster, higher**
- **To provide a 'real' purpose and opportunity to use skills and learning they have gained in the past.**

The culmination of the week was a self guided journey. For many children (and parents) this was high on the perceived adventure chart. Again the reality was a very carefully planned route with frequent checkpoints and radio contact. But for many this was their first time away from home, so to undertake a journey without an adult present was a psychological challenge. With support from both the adults and the children in their group, all arrived at Waterhead in good time to catch the ferry home and in high spirits.

## Outcomes

For everyone involved in the week there had been personal challenges leading to great achievements:

- Children came away from the experience feeling positive about themselves, more tolerant of others, more self reliant and with a greater respect and understanding of their local environment.
- Families are exploring their local area together and children are venturing further independently
- Children demonstrate a greater willingness to try new things and an understanding that the effort involved can reap rewards.

The testimonials of the children and parents speak for themselves:

**"We really got a different child back – motivated rather than daunted by new challenges, willing to try new foods, believing in himself - really funny/interesting to see it form the other end!"**

- Parent who is also an Outdoor instructor

**"It's the most I've ever cycled"** - Year 5 girl

**"I'm now a lot fitter, I've carried on doing a lot of the things I did on the residential and now I feel I can stay away from home without worrying about it"**

- Year 5 boy

**"It was a real outdoor experience"** – Year 6 girl

**"James could not ride a bike or pedal when we were first told about this in the Autumn – but now we all cycle, it's got me back on a bike and I love it – so this outreached into the community beyond the week's residential – I also saw the other week how many families were cycling into school etc – it has set up a real ripple effect"**

- Parent of Year 5 boy

So what did I take away from this week?

Firstly a confirmation of the *importance of purpose*. This transformed the usual activities of walking, pedalling and paddling as for the most part they formed part of the travelling to and from the base for the week.

Secondly, *the sense of journey*; the anticipation of visiting new locations, transiting through different places, all adding to that sense of adventure and exploration.

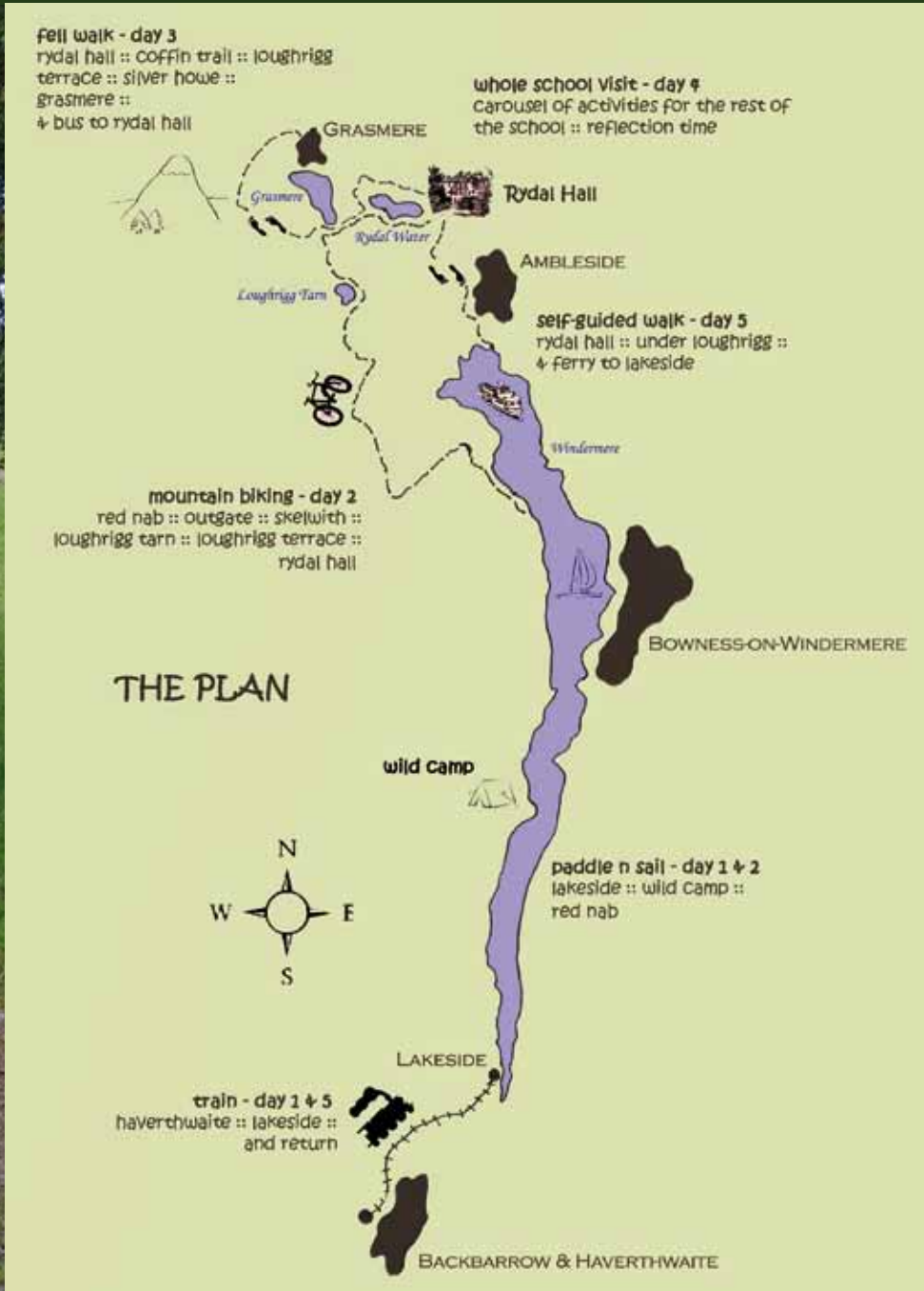
And finally, that this all took place right from the door of the school; I think this really added to the sense of achievement for the children – the idea that we did it from our school *under our own steam*. ■

Thanks to everyone at Haverthwaite Steam Railway, Andy and Myles at Tower Wood OEC, Windermere Lake Cruises, Dave and Rich at Cyclewise, Carol McNeil, James at Open Adventure and all the children, staff, governors and families associated with Leven Valley School.

### The plan for our 5 day adventure



*"It's the most I've ever cycled"*



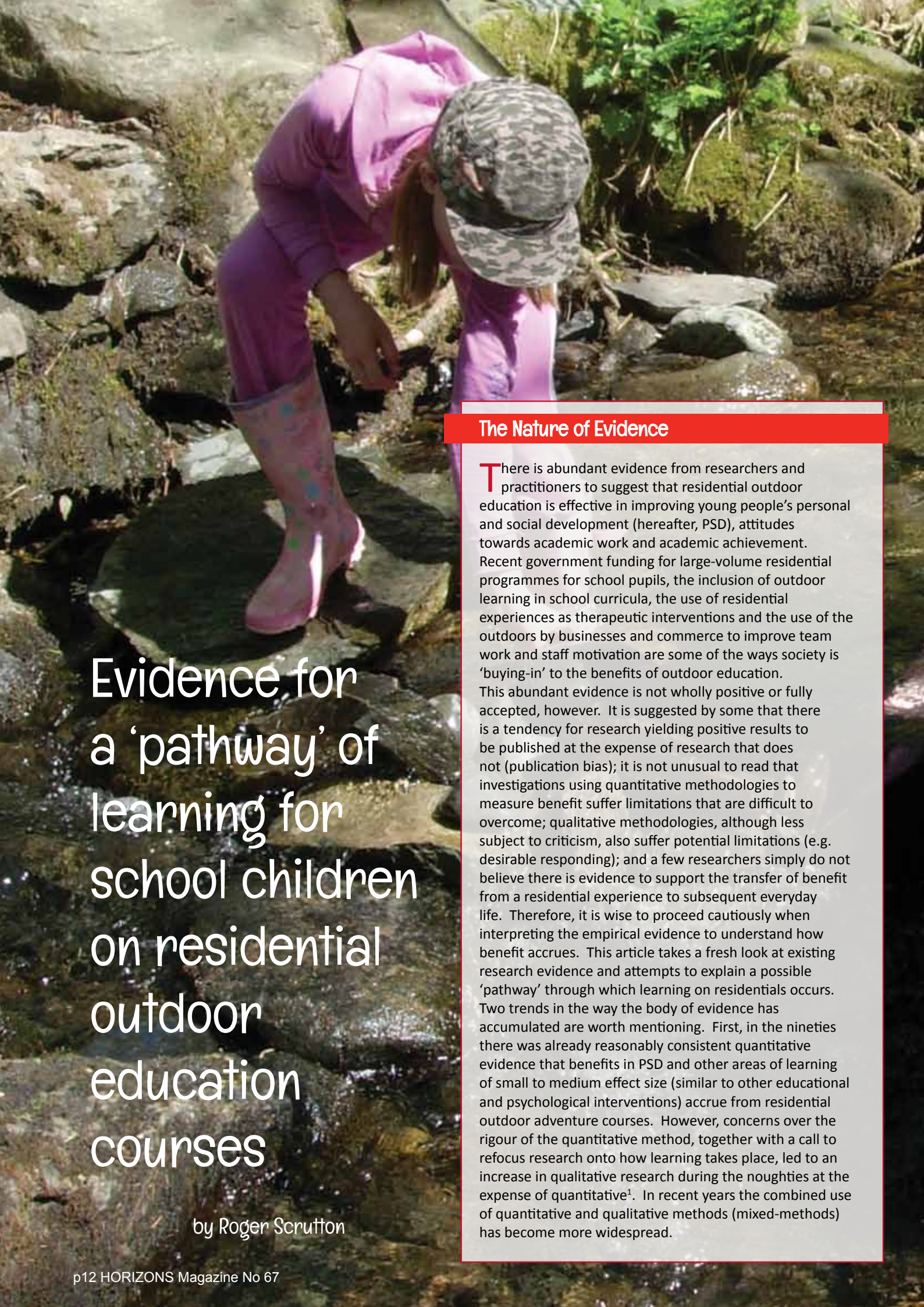
#### Author's Notes

Author's note: Anthea Hanson has worked and played in the outdoors in many different guises over many years, from teacher to tutor, parent to participant. She was cajoled into helping out on this week and enjoyed every minute of it.

#### Photographs and images

Map illustration and all photographs from the author






# Evidence for a 'pathway' of learning for school children on residential outdoor education courses

by Roger Scrutton

## The Nature of Evidence

There is abundant evidence from researchers and practitioners to suggest that residential outdoor education is effective in improving young people's personal and social development (hereafter, PSD), attitudes towards academic work and academic achievement. Recent government funding for large-volume residential programmes for school pupils, the inclusion of outdoor learning in school curricula, the use of residential experiences as therapeutic interventions and the use of the outdoors by businesses and commerce to improve team work and staff motivation are some of the ways society is 'buying-in' to the benefits of outdoor education. This abundant evidence is not wholly positive or fully accepted, however. It is suggested by some that there is a tendency for research yielding positive results to be published at the expense of research that does not (publication bias); it is not unusual to read that investigations using quantitative methodologies to measure benefit suffer limitations that are difficult to overcome; qualitative methodologies, although less subject to criticism, also suffer potential limitations (e.g. desirable responding); and a few researchers simply do not believe there is evidence to support the transfer of benefit from a residential experience to subsequent everyday life. Therefore, it is wise to proceed cautiously when interpreting the empirical evidence to understand how benefit accrues. This article takes a fresh look at existing research evidence and attempts to explain a possible 'pathway' through which learning on residential courses occurs. Two trends in the way the body of evidence has accumulated are worth mentioning. First, in the nineties there was already reasonably consistent quantitative evidence that benefits in PSD and other areas of learning of small to medium effect size (similar to other educational and psychological interventions) accrue from residential outdoor adventure courses. However, concerns over the rigour of the quantitative method, together with a call to refocus research onto how learning takes place, led to an increase in qualitative research during the noughties at the expense of quantitative<sup>1</sup>. In recent years the combined use of quantitative and qualitative methods (mixed-methods) has become more widespread.



A photograph of three children, two boys and one girl, leaning over and looking at something on the ground in an outdoor setting. The girl on the left is wearing a white baseball cap with a red logo and a dark blue shirt. The boy in the middle is wearing a white t-shirt. The boy on the right is wearing glasses and a grey hoodie. They appear to be engaged in an outdoor activity or field study.

Second, we have seen an expansion in the number of large-volume programmes of residential outdoor education for school pupils (hundreds to thousands of pupils), such as those referenced in the adjacent panel, which are the ones used for this article. These are mainly programmes of wholly or partly outdoor adventure activities but also include field studies courses, virtually all with the long-term aim of raising pupil achievement and attainment in school. The programmes have been evaluated using both quantitative and qualitative methods, although none seems to have been very successful in using a mixed-methods approach.

What follows examines the evidence presented in the evaluations of these programmes. The quantitative evidence on the extent of learning can best be described as mixed. Raising Achievement, London Challenge and City Challenge measured little or no benefit from pre- and post-intervention tests analysed statistically. Closing the Achievement Gap also measured benefit by this method although the magnitude is not reported. Learning Away, measuring benefit in terms of the percentage of the pupils who felt they had benefited from the intervention, found that between about 60% and 90% of pupils felt benefit, depending on the area of learning. The other programmes did not report any quantitative data. Interestingly, two studies on small cohorts of pupils and recently published in Horizons did measure some benefit<sup>2</sup>.

The qualitative evidence, on the other hand, is truly remarkable in its consistency across all programmes in revealing both positive benefit and evidence for the way learning takes place. This is despite a variety of programme characteristics, aims and objectives and participants. Desirable responding notwithstanding, positive feedback on

“Closing the Achievement Gap” (Lieberman, G. & Hoody, L. (1998). Closing the Achievement Gap. State Education and Environment Roundtable, San Diego, 22pp.)\*

“Raising Achievement” (Christie, E. (2004). Raising Achievement in Secondary Schools?: A Study of Outdoor Experiential Learning. Unpublished PhD thesis, University of Edinburgh, 274pp.)

“I Can!” (Dismore, H. & Bailey, R. (2005). “If only”: Outdoor and adventurous activities and generalised academic development. Journal of Adventure Education and Outdoor Learning, 5, 1-9.)\*

“Outdoor Classroom in a Rural Context” (Dillon, J., Morris, M., O’Donnell, L., Reid, A., Rickinson, M. & Scott, W. (2005). Engaging and Learning with the Outdoors – The Final Report of the Outdoor Classroom in a Rural Context Action Research Project. National Foundation for Education Research, Slough, 97pp.)\*

“City Challenge” (Amos, R. & Reiss, M. (2008). Field Studies Council City Challenge Residentials Pilot Evaluation. Field Studies Council / Institute of Education, University of London, 81pp.)

“London Challenge” (Amos, R. & Reiss, M. (2012). The Benefits of Residential Fieldwork for School Science: Insights from a five-year initiative for inner-city students in the UK. International Journal of Science Education, 34, 405-511)

“Learning Away” (Kendall, S., Whitley, J. & Rodger, J. (2013). Evaluation of Learning Away: Interim Report 1. Paul Hamlyn Foundation / York Consulting, 47pp + Annexes)

\*Not fully residential



benefit from teachers and pupils was found in over 90% of published quotes, and even young people who discovered personal weaknesses during an intervention were inclined to say they benefited from the experience. Although qualitative evidence is commonly gathered from only a sub-sample of the total number of participants or their teachers or parents (perhaps only 10%), the cumulative size of this sub-sample across all programmes reviewed here is large (I estimate 850 pupil interviews and 150 teacher interviews) and I believe the evidence from it is reliable.

## The case for a learning 'pathway'

Across qualitative evidence at least, there is widespread agreement amongst researchers and practitioners that residential outdoor education is beneficial for children and young people within both affective and cognitive learning domains. There are two key features of residential outdoor education that make it a very effective learning environment. First, it is multidimensional, providing a holistic experience with many challenges and opportunities to learn. This is illustrated by McKenzie's<sup>3</sup> model of learning on Outward Bound courses, which is based on the multiple inputs of learner, physical environment, social environment, course activities, service and instructor support. The second key feature is the experiential nature of learning, be it social, behavioural or academic, which requires the participant to demonstrate initiative to tackle the challenges, exploit the opportunities, and take ownership of the learning process. Recently, it has been suggested by Williams<sup>4</sup> that the first of these two features finds an analogue in complexity theory, which explains how dynamic, interdependent interactions between multiple inputs can lead to a simple output. Waite<sup>5</sup> used Bronfenbrenner's Ecological Systems Theory to explain how a wide range of interacting socio-cultural elements shape outdoor learning. These are examples of outdoor education research drawing on rather "exotic" theories as a means to understanding the complex ways in which different inputs to outdoor experiences combine to produce outcomes. More traditionally, outdoor education has drawn on the theories of experiential learning, multiple intelligences and, in particular, the transfer of learning between learning domains and between experiences to make sense of the interactions between inputs. A persistent and crucial observation to emerge from the qualitative evidence reviewed here is the fundamental role played by the personal and social aspects of learning. At primary school level this is often the principal objective of the residential week, focusing on outcomes from adventurous activities with the aim of improving the learning environment back in school. At secondary school level, many teachers report that even if the intended outcomes from a field studies course were in the cognitive domain, the actual gains were greatest in the social and academic areas of the affective domain. Pupils' memorable moments or key episodes from field studies

courses are commonly social rather than academic. However, further to the emergence of personal and social aspects as a common outcome irrespective of stage of education and course type, there is virtually universal agreement in the qualitative data that improved personal and social skills lead to a better attitude towards school work and the acquisition of academic skills, which in turn leads to improved achievement and even attainment. Strong independent evidence also shows that social and emotional learning leads to improved academic achievement<sup>6</sup>. The adjacent panel contains some teachers' quotes typical of the programmes that have elicited these views.

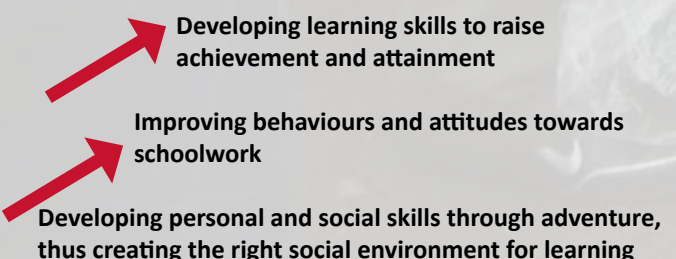
On acknowledging that personal and social learning sometimes supersedes the academic objectives as the principal benefit: *"Forget everything else, that is enough, the outdoors, that kind of freedom, running down the hill – that is the kind of quality experience which you can't do in the classroom."* (Outdoor Classroom in a Rural Context)

On PSD: *"...spider's web ... scavenger hunt ...- both activities were great for getting them to see that relying on each other made them more effective as a team. Next day, I was amazed at the levels of cooperation ..."* (London Challenge), and *"Before the residential both of those children were complete school refusers ... [they are] now accessing school and before the residential they weren't."* (Learning Away)


On the transfer of interpersonal learning from residential to school: *"They got to know us better, and I got to know them. It's making a really positive difference in school now", and "We are really keen on building teams in school. Residential experiences are invaluable for that, you can't do it at school."* (London Challenge), and *"It is a pity that their everyday educational experience cannot embrace more of the features of the trip, e.g. more outdoor and adventure activities. The boys certainly learn well this way and the effects on most boys behaviour is positive".* (City Challenge)

On raising achievement: *"Some of the [classroom work] was of a higher standard than usually achieved in school because it came out of real experiences that they had enjoyed. They loved being outdoors and this motivated them".* (City Challenge), and *"The students are showing an increased interest in the subject compared to students that did not go on the residential. This has led to an increased level of progress."* (Learning Away)

The concept of a 'pathway' of learning associated with residential outdoor education emerges from this evidence:







In elaborating on the learning process in outdoor education, Dillon and colleagues (Outdoor Classroom in a Rural Context) examined why outdoor settings effectively facilitate learning. They suggested, "... theories of learning augment empirically-based accounts of the variables, factors and contexts which influence the learning process ... and yield explanations of the ways in which that influence occurs". The variables, factors and contexts referred to here are essentially those inherent within the multidimensional experiential learning environments mentioned above<sup>3</sup>. They go on to outline three ways in which learning occurs in the outdoor classroom, namely by improving social skills, improving behavioural associations and making meaning from experiences, which are to all intents and purposes the three components of the learning 'pathway'.

However, this 'pathway' is not necessarily as simple and progressive as shown above, in that the learning components are likely to be 'intertwining' *sensu* Bloom<sup>7</sup>. What also emerges from the qualitative evidence from the large programmes for schools is that different types of residential course offer some or all of the 'pathway' components:

- **Residential courses of adventurous activities only.** These foster personal, social and behavioural skills, which can be built upon by teachers back in the classroom.
- **Field studies courses for academic purposes.** Pupils and teachers commonly acknowledge that this type of course promotes academic achievement through better relationships between pupils and between pupils and teacher, and by providing 'memorable moments' of a social or academic nature. Personal and social learning often supersedes academic objectives as the principal outcome.
- **Combined courses of adventure and field studies.** The introduction of these courses has been in response to providers and clients realising that adventure activities create a liberating environment in which academic learning is fun. These courses incorporate all three steps of the 'pathway' and are strongly characterised by transfer of learning between affective and cognitive learning domains ('intertwining'<sup>6</sup>), feedback and iteration of the learning processes.

## Implications for practice

There are some researchers who simply do not believe there is any evidence to support the transfer of benefit from a residential experience to the subsequent everyday life of the participant. A key argument in support of this belief is that affective learning, such as improved attitude towards school work, typically takes place over months and not in the space of a five-day residential intervention. On the contrary, the qualitative evidence reviewed here suggests that an outdoor education intervention can achieve a sustained change in pupils' attitudes towards school work. The most likely explanation of this, essentially an example of accelerated learning, is that it occurs when the class teacher and pupils go through the experience together and continue to build on the experience together in school.

In their analysis of the Outdoor Classroom in a Rural Context, Dillon et al. said, "There is a dilemma here: while the outdoor classroom is eminently well-suited to bring about learning relevant to PSHE\*/Citizenship, schools tend to justify outdoor education in relation to the subject curriculum." However, there is only a dilemma if the two areas of learning are seen in isolation. I would suggest that the evidence here points to a learning 'pathway' in which the two areas are intrinsically linked. We might ask, "does it really make sense to go outside but only stare down at a quadrat for two days; or to spend two days rafting and ingesting water without thinking about its provenance or quality?" Regardless of whether an outdoor education intervention is focused on adventurous activities, curriculum studies or a combination of the two, fostering the intrinsic link between social and academic learning seems most likely to yield benefits in academic achievement and attainment in the long run. ■

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## Author Biog

**Roger Scrutton** is Honorary Research Fellow in Outdoor Education at Moray House School of Education, University of Edinburgh. His research interests are in measuring the benefits and understanding the processes of affective and cognitive development in children and young people on outdoor adventure and field studies courses. Prior to joining the Outdoor Education Group he was a

long-standing member of academic staff in the University's School of Geosciences. He is a UKCC Level 2 coach in orienteering and currently President of the Scottish Orienteering Association.

**Photographs: from the Low Bank Ground team**





# Challenge and Residential Education Experiences

by Stuart Meese





As a centre manager I really wanted to know whether the level of challenge during residential adventure education makes a difference to the outcomes for young people. Using Randall Williams<sup>1</sup> questionnaire to survey just under a thousand young people across the four centres belonging to Sandwell Residential Outdoor Service allowed me to study the impact of challenge across centres that offered different levels of challenge. The findings show that the level of challenge does not have a large effect on outcomes.

Randall Williams<sup>1</sup> published a questionnaire to measure the impact of a residential adventurous experiences (RAE) on primary age children and suggested that a residential was comprised of four interwoven elements:

The impact of living with others

The impact of challenge

The impact of teacher relationships

The impact of learning about self

Williams developed the questionnaire for all adventurous residential centres to measure the impact that they have in these four categories. Use of this tool is slowly being adopted; Play Dol y Moch were one of the first in order to demonstrate the impact their services have. But, the tool, is still very young and has still been largely untested or has been quickly diluted or adapted.

As a centre head and practitioner I was keenly interested in the impact of challenge. Could I tinker with this, or perhaps any of the other elements and create better (or worse) outcomes for young people? It is long held that adventure is a keystone of our industry<sup>2,3,6</sup> and it comes with controversy - from the claims of fake pre packaged adventure<sup>4</sup>, debates about its educational validity<sup>5</sup> and the ability of practitioners to find the right level<sup>6,8</sup>. Williams asks:

*It is interesting to ask what is the most appropriate level of challenge for primary school pupils? There is no doubt that much provision takes place either at the play or adventure stage and that frontier adventure is relatively rare.<sup>1</sup>*

Could this challenge element be met by the arts, pre packaged adventure, onsite activities or do we need the mountains, kayaks and catamarans? My view was that high risk activity might give better outcomes but I recognised that 'challenge' for the individual participant exists along a long sliding scale of adventure but must include the social and emotional risks we find prebuilt into any residential trip.

## The experiment

Williams proposed that his questionnaire could be put to use in the outdoor community....

1. To discover whether the degree of impact varies across the different types of centre.
2. Compare the impact of courses that take place entirely within the grounds of a centre with those that take place in surrounding countryside.
3. Discover whether there is any difference between the use of physical challenge and the intellectual challenge that might be found on a field study course. <sup>1</sup>

Proposal 1 gave me an idea for an experiment. As part of Sandwell Metropolitan Borough Council the Residential Education Service (SRES) has a quartet of residential centres. Each has a clear and distinctive role based on several factors such as location and activities offered. However, all four work with a similar client base, under the same service leadership, management, direction, employment and quality framework but separated by levels of physical risk, terrain and activity making it possible to test this.



Plas Gwynant (PG) is a centre which provides traditional mountain based, high risk, off site activities in the heart of the Snowdonia National Park. AALA licensed.



Ingestre Hall (IH) - an expressive arts centre set in a wonderful Staffordshire Jacobean mansion.



Edgmond Hall (EH) - a centre with a curriculum, rural, historical and countryside focus focusing on themed outdoor education



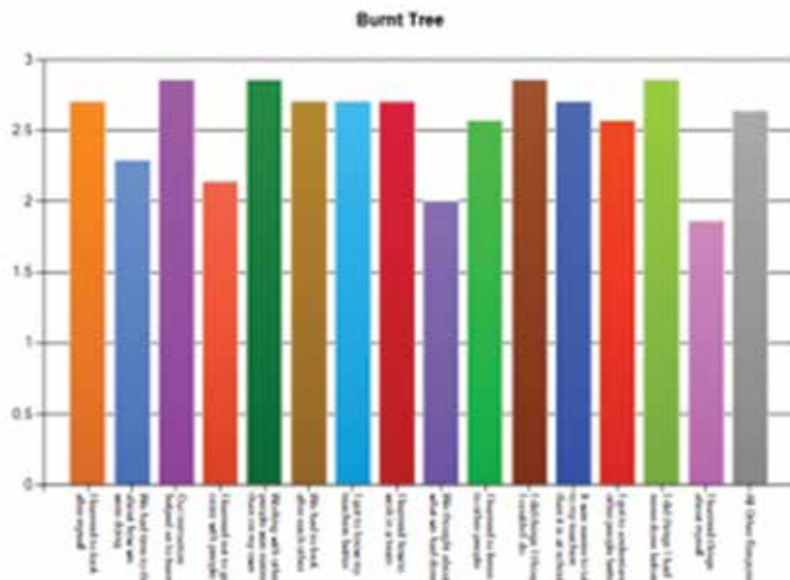
Frank Chapman Centre (FCC) - onsite, medium risk multi activity adventure and environmental centre based in woodland. AALA licensed.

My project sought to determine if the differing level and nature of challenge at these centres would lead to different outcomes that could be directly attributed to the centre - a tough job considering the multitude of factors that determine a residential course. If adventure was a determining factor for improved impact I hoped to see some clear ranking in impact for the more adventurous centres, or will other factors have a greater bearing on the outcomes for the primary school participant at this level.

## Data Collection

Data collection took place shortly after or at the end of a residential course. I used the corporate survey monkey or good old fashioned paper, resulting in nearly a thousand responses across the four centres. Each school was promised their own results and the centre staff avidly awaited the responses from the children - sometime more so than the leaders feedback. Lots of schools were happy to help especially when they saw example results that they too could use.

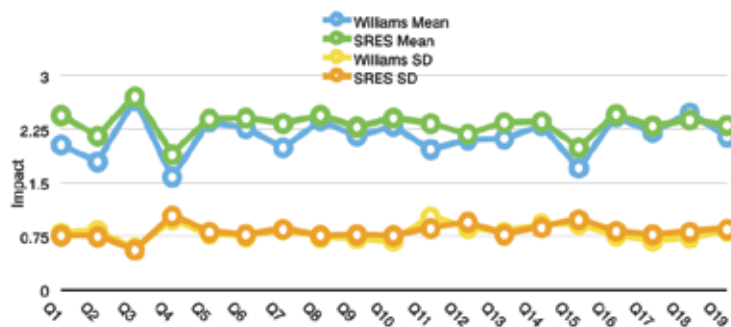
Key 0 = No Impact, 1 = A Little, 2 = Quite a bit, 3 = A lot of impact



### Results:

Statistical analysis or indeed numbers is not my strong suit! With just a hard fought CSE grade 1 in Maths gained in 1987, long forgotten, the University Of Worcester who helped me understand simple stats design and testing, need praising for their patience, but dealing with objective data in volume gives a rare clarity to the results not often found in our field.

First step: I needed to check our overall data 'looked' the same as the original study - it did with our mean results and the standard deviations hardly deviating at all.



### SRES centres as compared to the original Williams<sup>1</sup> study.

Next the data was then subjected to a 'Kruskal-Wallis One Way Analysis of Variance' which is cited<sup>7</sup> as the best test to do on this type of data - the process is not hard but interpreting the results was.

For those now frightened by the thought of such number crunching, basically each centre is compared against the other to see if having attended that centre created a difference in the outcome for a young person that was outside the realms of just being statistical chance. It also showed me what effect that difference, if any, had on the outcome.



The test showed there was a small but statistical difference between the outcomes from Ingestre when compared to both Edgmond Hall and Frank Chapman that was not subject to chance but was a direct result of attending that centre rather than the other.

Centre	Centre	Significance	Number	Chi Square	Effect Size %
IH	FCC	0.000	662	23.132	3.50
IH	EH	0.000	583	25.614	4.40
IH	PG	0.171	No Significance		
FCC	PG	0.336	No Significance		
FCC	EH	0.320	No Significance		
PG	EH	0.135	No Significance		

So - the arts centre had the least impact! But where was the mountain centre? Why was Edgmond, traditionally seen a very low risk, coming top?

But any ranking was then quickly quashed by a look at the effect size. Yes there was a statistical difference between the centres, they do create a different level of impact to each other, but the size of this effect is so small to be negligible - just a 4.4% rise in in the best case!

A quick analysis of the other categories : 'Living with others' and 'Learning about Self' showed the very same patterns as 'Challenge' for significance between the same centres, and the same small effect sizes, however the category 'Teacher Relationships' showed no single centre's impact was significant from another. I assume the residential just facilitates the relationship developing but the key drivers in this are the children and teachers themselves so the centre has much less impact.

## Conclusions

The analysis showed two main results

1. That two outdoor based centres had differing levels of impact to the arts.
2. The effect size of this impact is negligible .

Whilst the arts centre was fractionally lowest, the centre with a focus on themed curriculum and with mainly non-adventurous activities was ranked highest. The mountain centre sat in the middle!

Without a clear ranking and significant effect size from adventurous to non adventurous centre, the case for adventurous risk activities at a SRES residential centre for primary school children remains an unproven case.

Initial discussions with the Centre heads on these results brought forward the view that the Edgmond centre would often be the first experience for many children and the Ingestre Arts centre, usually the second or third residential trip. The initial away trip might prove to be the more challenging due to it being the first.

As Williams<sup>1</sup> recognised, Mortlock's<sup>6</sup> 'peak adventure' need not be at the heart of a residential experience and that the web of other elements combined with a reasonable and well pitched level of challenge will produce excellent outcomes. It would seem that this may be the case - the majority of Key Stage 1 students find bed-making a very challenging activity and results demonstrates the power of the social, emotional challenges that an arts residential experience produces stacked up against all those canoes.

## What Have I Learnt?

This study challenged my underlying belief in the power of adventure which I have held as a valued and central tenant to my practice for many years and whilst it does not discredit it, it does move my focus away from the tool of adventure to a wider challenge in the development of the experience we produce for young people. But key is placing of a young persons voice at the centre of what we do - allowing them to tell us what impact we have made for, and with them - is the best result.

With the Association of Heads of Outdoor Centres now funding a project at Plas Dol y Moch to create a system based on Randall Williams' work to create a system accessible to members to run their own questionnaires and contribute to a wider national collection of this type of data, the opportunity arises to continue and widen the research to include many differing types of providers. Nationwide data with many tens of thousand of returns across a greater spread of organisations, ideologies and delivery methods would provide a rich resource and don't you want to know what impact you had on last weeks course? ■

### References

Abridged from a work based project undertaken as part of a Masters in Outdoor Education with the University of Worcester. Full paper, data and references etc available on request.

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### About the Author

Stuart Meese is the Head of the Frank Chapman Centre, one of the oldest outdoor centres in the UK and based in forested rural Worcestershire. Originally a windsurf bum he has been working in sailing centres and outdoor education since 1995 with occasional distractions into youth work, youth participation and teaching.



What can accelerate progress and attainment, improve schools and transform teaching and learning?

One answer is 'a residential' - and in a big way. A new study has found that residential experiences, offered in certain ways, can transform learning, teaching and schools. Learning Away, an initiative funded by the Paul Hamlyn Foundation, was set up to explore what it is that makes a 'brilliant residential'. In this first of three articles Chris Loynes explores the impact that the curriculum integration of a residential can have on progress and attainment.

Amongst the many schools that experienced impacts on literacy as a result of outdoor residential experiences two case studies stand out. Both were tackling a problem in years five and six in which pupils, particularly boys, had begun to lose confidence and interest in literacy. Their test scores had plateaued. In both partnerships the approach to planning trips has become organic with staff and pupils suggesting topics and dates often at short notice. Both combined a visit from a creative writer with a residential to great effect.



## Learning Away Case Study - SOUTH HETTON PARTNERSHIP

This case study highlights the importance of curriculum integration, the significance of the different approach to teaching and learning developed while away and the impact that pupil leadership can make.

The staff of the three primary schools in the South Hetton partnership have developed a wide range of residentials from year one to six and integrated into the curriculum. Costs have been kept down as many of the trips camp locally using the schools' shared equipment.

“I have introduced a range of strategies alongside residentials to lift the standards in this school. Standards are rising from a low ebb and this year especially will take a big upward jump. Many things are contributing to this but I feel the residentials are a big part of this. They change the way teachers think of the children and teach in the classroom, the way they see the children, the expectations they have of pupils.”

“After four years residentials are now embedded in this school. The staff are enthusiastic about them. All staff are involved and promote trips to their pupils and integrate the experiences into their classroom work. Most staff expect to go on trips and many are active in proposing themes and destinations.”  
Head teacher.

As part of the year five programme the staff of two schools decided to add literacy as an objective to a three-day excursion to the nearby coastline.

“We put on an extra creative writing residential with a local author. The children read his book and the author came into to school to do readings before going away. On the trip the author joined them and they then wrote their own stories in workshops inspired by the local setting. The children were very enthusiastic and took to the author as he went to school locally, lives locally and they know his books are popular.”  
Year 5 teacher.

It thought that social and study skills also contributed to the outcomes of the visit.

“I notice positive changes in pupil resilience, confidence, their team working skills, their independence as learners and in social settings, their determination – after the trips they are more prepared to have a go at new challenges and to stick at things.”  
Head teacher.

“Kids would sleep beside each other that you would never ever see play together in school. The child you think is a shy child gets put in with a few others and you really see them come out of themselves. So you think she's not really that shy, she just never gets a chance to speak really. In school they don't really get a choice of where they sit or who they sit with because they sit in their ability groups but when they're away they don't really get an ability set so they can play with who they want.”  
Year 5 teacher

The year five pupils from one table group confirmed this. They had below average scores in their literacy tests before the residential. On return two pupils, who had also been identified and trained on residentials as leaders in their year group, organised the table. They discussed what they had learned on the trip that had helped them to succeed at challenges and then applied these to their collaborative study in class.

“Because of the trip my table we all have to work together to get these table points and I think it helped with the trip, the trip helped us do that. Because the trip helped us work together, it's helped get more. Our points are going up instead of down because we're working together more and we're actually paying more attention to the teacher and not just messing round drawing stuff.” Year 5 pupil.

“...like our reading was on a 3b before I went to the camp. After it turned out to be a 4a.” Year 5 pupil.

“You want to take part and because I think its learning for the test what we learned from the trip I think that's how my level have gone up.” Year 5 pupil.

This was confirmed by the teaching staff who commented that this improvement took place in just four weeks. The impact was most significant on pupils with below average literacy scores and particularly noticeable amongst boys.

“We've found its enhanced their speaking and listening skills, their vocabulary because its first hand, its not from a book, they've experienced it first hand they can talk about it and their talking leads into their writing.” Year 6 teacher

The positive feedback led to an uptake in interest in English and in exploring curriculum themes using the spoken and written word.

“We should do poems. Because poems its about something we've done, our memories. Because if we went on the camp we would have something to say about it. We could visit a place like Beatrice Potter, someone who's done really good poems.” Year 5 pupil.

An inspiring writer, an exciting place, the interactive pedagogy of learning outdoors and the informal time away on residential all contributed to enhanced group work, collaboration and the knowledge amongst the pupils that they can solve difficult challenges and make progress. All have impacted on classroom progress, skills, motivation and attitudes.





## Learning Away Case Study - THE CHRIST CHURCH PARTNERSHIP

A growing and flexible relationship with a nearby outdoor residential centre has meant that the staff and pupils can respond creatively and at short notice to opportunities for Learning Away. The arrival of a creative writer inspired a group of year six boys to suggest that the class should work with her in the 'spooky wood' by the centre. In this low cost, organic context it was no sooner said than done.

Widespread use of projects, themes, small group work, day trips, practical and experiential learning were already embedded across classes, year groups and schools so complimenting these with a programme of year two to six residential was congruent with the approach taken by the partnership.

In this case the knowledge of several residential venues close to the school built up by the pupils over many visits gave them the opportunity to be involved in the planning of their teaching and learning. The teacher, aware of an emerging problem of literacy amongst some of the class and the opportunity of a visiting author, capitalised on this with an overnight visit.

*'It's better doing maths and literacy out of doors. We should do it four times a year.'*  
Year six pupil.

The 'spooky wood', visited by day and by night, stimulated storytellings by the author and the pupils. Word banks created the foundation for written stories to be written back in the classroom.

*'Going to (spooky wood) inspired me because I've already started to write me own book.'* Year six pupil.

*'... (the author) helped us with our vocabulary and that and we wrote part of a book together.'*  
Year six pupil.

*'It's clear that the author inspired year six to write. Every time you ask them to draw, they write!' Year six teacher.*

The teacher used other tactics to help make the pupils proud of their new found vocabulary and skills.

*We were teaching. Everybody was just watching the board. We taught them how to make little whisper bags. We learned this thing called wonder whispering and we did this. It was hectic! Now I know what Miss ... Feels like!' Year six pupil.*

The impact could also be seen on the aspirations of the pupils.

*It could start your career off, like you could become a mountaineer or someone. Like when we went on the creative writing course one of us could become an author because of that.* Year six pupil.

The head teacher commented that

*“Classroom teachers notice an improvement in engagement and attainment that is then sustained through the year post trip for a wide range of pupils including those with previously high, middling and poor results. The impact is perhaps most noticeable on low achievers. It is picked up especially in core subjects such as maths and literacy – aural and written.*

*Behaviour is also associated with these changes. This is both in relation to more supportive attitudes to other pupils, more eagerness to learn and better behaviour in class all impacting on attainment.' Head teacher.*

## SUMMARY

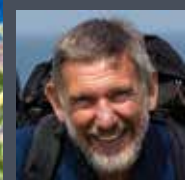
Both case studies highlight the potential of residential experiences when they are inclusive of all or most pupils in the class, progressive so that regular experience leads to expert residential learners and teachers – and, above all, integrated thoughtfully into the curriculum. The importance of more interactive ways of teaching and learning stands out as a key factor on the enhanced progress of the pupils. ■

For more case studies, resources and information visit [www.learningaway.org.uk](http://www.learningaway.org.uk)

The following are links to the case studies.

CHRIST CHURCH: <http://learningaway.org.uk/case-studies/improving-literacy-through-residential-experiences-at-christ-church/>  
SOUTH HETTON: <http://learningaway.org.uk/case-studies/improving-literacy-through-residential-experiences-at-south-hetton/>  
SOUTH HETTON: <http://learningaway.org.uk/case-studies/residentials-develop-young-leaders-years-2-6/>





**ABOUT THE AUTHOR**  
Chris Loynes is a researcher with the University of Cumbria and an educational advisor with the Paul Hamlyn Foundation.  
Photographs: Learning Away collection



# Extending the value of Outdoor Education

by Roger Morris



The publication 'High Quality Outdoor Education' identifies 10 specific outcomes that can be expected from centres that are providing this level of quality. Each of these outcomes has a set of indicators which most young people should be meeting or progressing towards.

The majority of our students are at the centre for just three days and although we always try to start our sessions with some educational objectives and finish with a review of how well we achieved those, the majority of the time is rightly spent on doing the activities. How then are we able to deliver and measure against indicators such as?

- Feel they can make a positive contribution to the success of their group (Outcome 2: Confidence)
- Appreciate and draw inspiration from the natural environment (e.g. in oral or written reflection, artwork or photography) (Outcome 4: Environmental Awareness)
- Set realistic targets for themselves over an extended period (Outcome 6: Personal Qualities)
- Are able to describe the experiences orally or in writing (or using video and IT skills) (Outcome 7: Key Skills)



*...the majority of the time is rightly spent on doing the activities.*



- Demonstrate raised levels of attainment in other areas of the curriculum (Outcome 9: Increased Motivation and Appetite for Learning)

We have developed a number of different programmes to try and improve on these indicators and outcomes. These range from the traditional to electronically entering the heart of the classroom in order to extend the value of a visit for the students and the school.

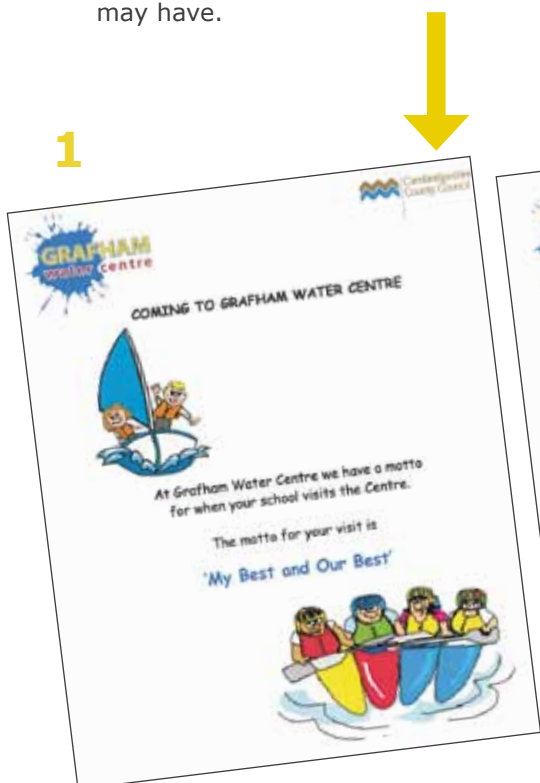
On the traditional level, we have created three documents which are available to all schools. These are pre- and post-visit documents as well as a booklet to be used during the visit.



**1** The pre-visit document uses some of the IOL 'Challenge' material along with some of our own ideas. The aim is to help teachers prepare the students and set the expectation that the visit is not just a holiday but an opportunity to learn about independence, teamwork, encouragement and facing new challenges. It also helps to identify any concerns or worries that individual students may have.

**2** We produce a booklet which the students assemble as part of the arrivals process. This has a double sided page for each activity that the students will undertake. One page is a reflection on the activity focusing on how the group performed with their teamwork, listening skills, encouragement etc. The other page is a puzzle loosely related to the activity e.g. a wordsearch, maze, spot the difference. The booklet also acts as a discussion document back at home so that parents who have paid for the visit have some evidence of the benefits.

**3** The post-visit document has resources which reflect on the successes and challenges of the visit. The sections are again a combination of some of the IOL 'Challenge' material and some of our ideas. It compares actual experiences with expectations and challenges the student to think about how the risks were controlled. There are also sections which focus on the attributes of a team player and when their new skills can be applied back in the school environment.





The centre has also been embracing the 21st Century and the world of electronic media and communication. Cambridgeshire County Council has introduced an IT 'Learning Platform' (STARZ) which is now in use in over 90% of the primary and special schools in the county. This platform allows access for all primary children to a web-based platform for their personal diaries, blogs, e-mails and topic discussions. It also allows schools and teachers to set up inter-school activities, projects and forums on any subject.

On closer investigation it seemed this was an ideal way to provide resources for schools that would allow the possibility of follow up work from the visit.

Grafham is now a 'community' on the Starz system and provides the pre- and post-visit material online. We also provide, a 'what to bring' quiz, a gallery of photos and digital clips of the Centre and the activities, and a post-visit survey.

The survey is the 'Challenge' survey produced by the IOL to try and collect evidence for the benefits of outdoor education. The great thing about using the platform for the survey is that it requires no paper, no emails, no teacher involvement and results can be extracted directly to Excel with no additional administration work and doesn't add to the teacher's paperwork.

Even more exciting is that schools can now WIN PRIZES in the Grafham competitions for creating a digital brochure or advert, create some electronic artwork or write a song,



*Increased Motivation and Appetite for Learning*

rap or poem about the visit. Entries can be submitted through the STARZ system and are moderated by the Centre to stop inappropriate entries and content being added to the system.

After discussion with some teachers, the view was that they didn't want to cram anything new into their already fully planned days and terms but wanted ideas and resources they could drop into existing areas of the curriculum. The competitions are specifically aimed at creative writing, use of IT, art and music.

To promote the new digital aspect of the Centre, we can lend basic Flip digital cameras to visiting schools and with the use of the on-site WiFi, teachers can post photos and digital videos to school websites or other social networking sites. This allows the rest of the school and parents to see and hear about the visit (whatever happened to postcards!).

Will this increase the benefits and value of a residential visit? It is, mostly, a new venture for the Centre this year, so the honest answer is we don't know yet. The initial feedback, however, has been positive and many schools have already used the traditional pre-visit booklet (available

in electronic format) which has already improved the way schools have prepared their students for a visit.

We will be encouraging our Cambridgeshire schools to complete the post-visit Challenge survey and hope to be able to add to the pool of evidence for the benefits of Outdoor Education which can be gained from a residential visit. ■

**Author's Notes**

Roger Morris (APIOL) is Chief Instructor – Education at Grafham Water Centre. With a background in IT training, he moved into the Outdoor Industry as an instructor in 2006. Since 2009, his role has included improving the educational benefits of school trips, improving the access to activities and getting outdoors.

Grafham Water Centre is a 110-bed residential centre on the shores of the reservoir. The Centre, managed by Cambridgeshire County Council, has recently completed a £3.75m refurbishment and expansion programme. It provides land and water based activities with much improved access for all abilities to both buildings and activities.

**Photos:** from the author

