Learning by Accident!

The ViTaL Development & Research Programme

Report No. 1

ViTaL Partnerships

Values in Teaching and Learning

Learning by Accident!

The Report of a Personalised Learning Project for Young People at Risk of Disengagement

An extension of the collaboration between the RSA, St John's School and Community College, London Academy, University of Bristol and University of Newcastle.

1. Background

The partner organisations – RSA, St John's School, London Academy, Newcastle and Bristol Universities and ViTaL Partnerships - are collaborating on a combination of radical approaches to teaching and learning with a view to developing understanding of how:

- personalised learning can work in the classroom and other education settings
- the RSA competences and the dynamic assessment of learning power, using the Seven Dimensions of Learning Power in the Effective Lifelong Learning Inventory (ELLI), can combine to facilitate students' independent learning

A series of closed seminars is currently in progress, hosted by the RSA to ensure that all of the 'learning' from a range of projects was captured and made available to practitioners and academic researchers in the most appropriate formats.

One possible outcome of this work is the identification and recommendation for further research of an experimental, 'personalised learning methodology', based on the following eight-step process:

First, the student is encouraged to choose an object or place that fascinates her.

Second, she observes and analyses the chosen object/place, both as a separate, objective entity and in relation to her own interest and reasons for choosing it.

Third, she starts asking questions: obvious, but open ones, such as: *How did it get there? What was there before? Why is it how it is? Who uses it? How and why did they get involved?*

Fourth, the questioning leads to the identification of narratives, both around the chosen object and in the students' unfolding of new learning.

Fifth, the learner begins to discern that these narratives lead in turn to new, concepts, skills and understanding. The learning becomes a 'knowledge map'.

Sixth, the student's widening 'map' of knowledge can be related to existing 'public' maps or models of the world.

Seventh, the student arrives at the interface between her personal enquiry and the specialist requirements of curriculum, course, examination or accreditation.

Eighth and last, the student can forge links between what she now knows and institutional and social structures receptive to it. She has created a pathway from subjective response and observation towards the interface with established knowledge.

Two new partners have agreed to contribute to this work by offering a context for additional development work: (i) **Vinney Green Secure Unit**, South Gloucestershire and (ii) **Bath & North-east Somerset Training Services.** They are both organisations working with 'hard-to-reach' young people - young offenders and 'NEET Learners' (not in education, employment or training) respectively – whom the schooling system has not yet enabled to make a positive contribution and/or achieve economic well-being.

Naomi Millner, a new Graduate of the University of Cambridge, has been working with these additional partners and their students for the whole of July and August 2006 to design and implement this extension project.

2. Project aim and objectives

2.1 Aim

To test and evaluate the *personalised learning methodology* (described above) with a cohort of young people at risk of disengagement from formal learning and society.

2.2 Objectives

- To offer identified young people the opportunity to participate in a 'learning to learn' project
- To introduce learners to the concepts and dimensions of Learning Power
- To use the ELLI online inventory to give each learner a 'base-line' assessment of their learning power
- To employ the eight-step approach above (adapted as necessary) over a sustained period (min. six weeks)
- To re-assess their learning power
- Systematically to gather evidence of impact and change
- To report on findings and implications, evaluating the usefulness of:
    - the ELLI concepts and assessments
    - the eight-step approach

  to these learners and their training programmes in these contexts

3. Project Methodology

3.1 Research Design

The research project was a 'Development of Methodology', which required the researcher to develop an intervention (the *personalized learning methodology* described in **Section 1)** and at the same time to evaluate and improve it. The intervention, led by the researcher, was evaluated and improved throughout the process by a triple feedback loop of:

- Researcher observation and evaluation
- Student feedback and evaluation
- Staff feedback and evaluation.

In addition to this, the learners who participated in the interventions received a pre- and post- learning power assessment and the researcher gathered qualitative data which also informed the overall evaluation. This included:

- Narrative data
- Student workbooks and other documents
- Focus group feedback
- Video evidence
- Transcripts of individual interviews

The project processes are summarized as follows:

1. Preliminary briefings on contexts and learners
2. Initial design of provisional programme and resources in keeping with principles of the *eight-step approach*
3. Individual assessments and ELLI profiling
4. Revisions to programme and preparation of resources
5. Group briefings
6. Implementation of six week programme, with periodic recorded evaluation sessions
7. Adaptation of programmes and resources in response to reactions from the two different settings
8. Collection of evidence, including ELLI pre- and post- profiles, photocopies of work, copies of computer files and video recordings
9. Individual debriefing and self-assessments
10. Group dialogues
11. Modification of programme and resources in response to feedback
12. Analysis and write up

3.2 The Intervention and Evaluation Strategy

The 'intervention' was the application of the *personalized learning methodology* and the dynamic self-assessment of learning. The research methodology required that this intervention be:

- Continuously adapted in response to input from participants, allowing a form appropriate for the specific setting to evolve.
- Assessed to establish the effectiveness of ELLI concepts and the eight-step approach for this particular context.

The novelty of the interventions in particular for this type of setting required methods allowing an unusual degree of flexibility and responsiveness. For these reasons the strategy adopted was essentially 'evolutionary.' That is, although an *initial design* including a provisional learning programme and a set of resources (made up of powerpoint presentations, worksheets and workbooks) was developed subsequent to a preliminary assessment of learning needs, this framework was revised and adapted in response to feedback and ongoing appraisal on the part of researchers, young learners and organizations alike. The research outcomes were the *six adaptive strategies* (see **Section 4)** for applying the methodology in this particular context. These may themselves be considered collaborative efforts of a 'researching community' in which the learners themselves, with best knowledge of their own needs, play a vital role in shaping learning methods. In addition, the strong emphasis on self-evaluation throughout the study contributes a further level to the 'findings' of the project, including not only a final assessment as to the general viability of using such a methodology with 'at risk' learners, but also a wide-ranging array of suggestions as to how existing structures could be revised.

3.2 Cohort and Context

The cohorts for this study were chosen because of existing relationships between organizations and the research programme, combined with the suitability of the settings for running this kind of pilot project. The learning frameworks already in place in the two organizations, and the innovative approaches to learning both had already explicitly adopted made them particularly appropriate. However, since this was a small opportunity sample the findings will be explanatory rather than generalisable.

Of the two, the **Bath** Training Centre served as the main context for this process, since those managing the training courses concerned were in a position to make available the optimal contact hours, flexibility and resources for a comprehensive development of a programme based on the personalized learning methodology. Meanwhile the **Vinney Green** setting, offering a highly interesting and contrasting group of young learners, was significantly more constrained, which meant that only a modified version of the programme could be piloted there. Nevertheless, this was an important space in which to test the developing ideas and compare responses, and with its very distinctive character of learner, it became the impetus behind one of the *six adaptive strategies* which will be recommended in **Section 4.**

The cohorts in both settings were small, as dictated predominantly by the short time span of the project (eight weeks in total, of which **Vinney Green** was on vacation for three) and the limits of the educational programmes already in place. This means that the findings outlined are not generalisable and need to be tested in other settings. On the other hand, small group sizes were essential for the detailed adaptations, revisions and evaluations of an initial pilot to be made in response to individual needs, and therefore the set-up available was ideal for the aim and objectives of this study. One significant drawback of the two cohorts however was their unreliability – the young people at **Bath** were the group taking an 'E2E' course (Entry to Employment – an Access Course) which has a moderately high drop-out rate; and Vinney Green has in general a very high, and

relatively unpredictable turnover rate. Thus the original group of nine learners at Bath was eventually reduced to six young people, and of the two groups of three identified in Vinney Green one group was reduced to just one learner. Nevertheless, the detail and quality of the evidence collected was substantial.

The sample at Bath was made up of nine 16-18 year olds, decreasing to six, of which five were boys, and six girls. The majority of these learners had few or no GCSEs grades A-E and had left school before the age of sixteen. Several had significant learning difficulties such as Asperger's syndrome and dyslexia, and/or had experienced considerable disruption in their family and personal lives. The sample at Vinney Green was made up of two groups of three boys aged 13-17, of which one group represented the newest intake and the more senior members. All of these six were being detained in the secure unit, and hence were not in normal full-time education; the majority had been in erratic school attendance throughout their lives. Several of these learners had significant behavioural difficulties.

4 Research Outcomes: Six adaptive strategies

As mentioned above, the main outcome of the project was a series of strategies for using the *personalized learning methodology* with 'at risk' learners. These represent a collaborative effort between the researcher and learners, and in the form they are described here reflect the revisions, input and evaluation brought to bear on the original designs in the course of the study. The account of each strategy will thus contain within it relevant aspects of the specific needs of the learners and context in question; a strand of practical methodology, and a developed 'tool' whose effectiveness and potential use will be discussed in **Section 6** (Evaluation of methodological strategies). The first five sections refer to the **Bath** context, except where comparisons are explicitly drawn with the **Vinney Green** cohort. **4.6** treats the difference between the two contexts in more detail, and gives an account of the particular strategy adopted in that setting.

The six adaptive strategies are as follows:

4.1 Changing the language of ELLI: Using the 'Simpsons zones'
4.2 Using the 'archaeology' metaphor to start with a *place*
4.3 The notion of 'scaffolding'
4.4 Assessing progress: Using themed 'polygons' and the 'layer model'
4.5 The learning relationship: Creating 'spaces of trust'
4.6 Before scaffolding – The 'stepping stones' resource

4.1 Changing the language of ELLI: Using the 'Simpsons zones'

The learners were between thirteen and eighteen and despite frequently delayed literacy levels were usually both socially adept and highly sensitive to being 'patronized' by those associated with authority. With this in mind, the simplicity of the animal theme which has been successfully used in the past was judged inappropriate for this context and likely to be dismissed as childish. This led to the adoption of a 'Simpsons' theme, where each of the seven dimensions was to be represented by a different character of the popular television series. Images of the characters were also used throughout later resources to

provide a level of continuity and visual stimulus. It was felt that the humour and subversive element of this television series would be more likely to engage learners at odds with the 'system'; furthermore that since the well-known series is a part of contemporary youth culture that the Simpsons icons were more likely to facilitate personal identification with the values explored and an intuitive grasp of the concepts.

Similarly, it was judged that the terminology of the ELLI dimensions was also likely to be inaccessible to this group, a number of whom struggled with literacy issues – and it is possible that this could be applied to young learners in general. This led to the development of the language of 'zones' in the preparation stage, which was not only intended to be simpler, but also to capture the idea of a 'space' or 'mindset' into which a whole thinking-feeling-acting-reflecting person can enter. As a familiar and contemporary term, it adds to the vocabulary a certain edge and fashionable appeal, as well as bringing to mind associations with physical spaces ('no parking zone'), mental spaces ('in the zone') and thematic mind-frames ('the gaming zone', 'the comedy zone'). Simple words were then chosen for each 'zone' or ELLI dimension, each representing a dynamic, attractive metaphor which would succinctly embody the theoretically complex concepts. Using the notion of a 'detective zone' for example, alongside an image of Lisa Simpson busily asking questions, was significantly less complicated than trying to define 'critical curiosity' to learners for whom vocabulary and the foreign territory of conceptually complex jargon has often been a restrictive barrier.

The powerpoint 'The Simpsons Zones' can be found in **Appendix 1.** This was the first introduction to ELLI for the majority of the learners in this study (with the exception of three young people at Vinney Green who had taken the questionnaire previously), and constituted the introductory stage to the personalized methodology.

The Zones and Simpsons characters corresponding to the seven dimensions are as follows:

ELLI Dimension	Zone	Simpsons Character and Icon
Creativity	Springboard Zone	Bart Simpson 
Critical Curiosity	Detective Zone	Lisa Simpson 
Strategic Awareness	Pilot Zone	Marge Simpson 
Resilience	Gritty Zone	Homer Simpson 

Changing and Learning	Morphing Zone	Maggie Simpson 
Learning Relationships	Team Zone	Apu 
Meaning Making	Jigsaw Zone	Nelson 

After the initial powerpoint and discussion session, the Simpsons theme became a unifying factor in the subsequent visual presentations, with illustrations for the slides and worksheets selected, where possible, in keeping with this. The 'zones' were referred to at the beginning of each session as each segment of the process was associated with two of the zones, and both guide and learners were encouraged to relate group tasks and personal learning targets to the different zones. This was reinforced by the use of laminated bookmarks (see **Appendix 2**) and 'progression line' placemats (see **Appendix 3),** and by the offering of rewards in class session, such as for the most original 'detective zone' question (critical curiosity).

4.2 Using the 'archaeology' metaphor to start with a *place*

The *personalized learning methodology*, or '8 step was the theoretical starting point for the development of a programme and set of resources for these 'at risk' learners. In many ways this methodology is ideally suited to a learner who has often disengaged from conventional learning structures – even where these reasons are not directly related to the educational elements (although in cases of learning difficulties it can be the case), there is often a resistance to 'top-down' teaching which this methodology explicitly avoids.

To summarize, the essential attributes of this approach are that it:

- is anchored in personal interest (rather than didactic intent)
- starts with experienced reality (rather than opinion or theory)
- creates its own dynamic (rather than following taught routines)
- relates and unites disparate elements (rather than fragmenting them)
- is reflexive on its process (rather than concerned only with outcome)
- allows the outcome to derive from the process (rather than pre-determine it)

However, there were issues with making this approach accessible to the 'at risk' learner. For example, it relies upon the capacity to make creative choices, ask critical questions and so on, which may prove extremely difficult in a learner whose ELLI profile not yet

very developed. This matter will be the subject of **Section 4.3** where I introduce the notion of 'scaffolding.'

The problem which is the focus of this section is slightly different – how were we to communicate the concepts of the 'bottom up' approach in enough detail that it would work as intended, without overloading learners with complex vocabulary that will only inhibit their engagement? Because of the level of structuring adopted which I shall discuss in the following section, there was also the issue of deciding how individuals could be encouraged to choose divergent 'people, objects or places' at the same time as maintaining enough continuity through the class that the various stages could be discussed as a group. The adaptive strategy employed to navigate these issues was made up of two strands. Firstly, the 'archaeological' approach which others have used to describe the bottom-up nature of process was explicitly adopted throughout the programme. The metaphor of the *archaeologist* became a central image to identify with at every stage of the eight-step process: whether in 'choosing' the artifact which was to become the driving force behind their own research projects; to explain the importance of the rigorous or 'scientific' detail required in the 'describing' step, or in drawing out the narratives which were to form the basis of the 'new knowledge' which they were creating. The metaphor provided continuity and visual explanation where vocabulary was an issue, and offered continual scope for expansion – the set of 'archaeological tools' for the 'assessment polygon' for example, which the researcher and learners designed collaboratively will be discussed in **Section 4.4.**

The second element of this strategy, which emerged towards the end of the study, was the realization that the 'choice' step would be better restricted to a *place* only. In the early stages of a putative project, this place would then be 'frozen' into a particular moment, allowing a detailed account of it to be produced. This idea evolved through group discussions and thus was not a feature of the initial design, but researchers and learners agreed that it would have greatly facilitated the cohesion of the journey of the whole class, as well as avoiding the difficult emotional issues that sometimes emerged from the choice of a person. Adopting the metaphor of a group of archaeologists excavating places of personal significance makes possible a wide range of personal discoveries and a fascinating array of 'new knowledge' presentations, as well as meaningful exchange of methods and stories.

However, one important aspect of the methodology is that since the process is led increasingly by the learner's own questions, it becomes possible for each individual (in collaboration with their learning guide) not only to recognize and pursue personal interests, but to match the 'knowledge maps' they have created to those of existing disciplines, such as geography, history or psychology. While the study of change in a particular *place* offers itself very naturally as the basis for geography, history and even quite naturally physics or technology amongst others, it is possible that this focus might not spur those with other leanings (design, sociology, material sciences, for example) in the same way. Therefore, in the revised resource pack **(see Appendices 14, 15)**, learners also pass through a stage of recording *objects* of interest in the place they have chosen,

and later choose to focus on either one of these objects *or* the place itself as the main focus of their study.

4.3 The notion of 'scaffolding'

Before beginning this project, an important consideration was the fact that the majority of the learners in the cohort would in one way or another have 'disengaged' from the educational system. For some, this would be to do with personal or family difficulties, for others behavioural problems or learning difficulties. In reality the majority of learners represented complex constellations of all of these elements. This called for a different kind of approach than that, for example, employed with well-motivated high achievers in St John's Marlborough. Learners would not only be introduced to a methodology appropriate for our time that would connect with their own interests – they would also need to acquire new capacities, or 'stretch' their ELLI dimensions at the same time in order to be able to do it. That is, the personalized learning methodology relies on the learner's ability to 'choose' creatively, to organize strategically, to relate to others, to ask critical questions and so on. If learners' ELLI profiles indicated extreme fragility and dependence, how would they be expected to cope with this? Furthermore, the lack of confidence and trust in significant others which the generally low 'learning relationships' dimension illustrated, suggested that learners would be extremely cautious in allowing themselves to exhibit the vulnerability necessary to engage with their own personal responses and feelings.

This led to the notion of the 'Scaffolding' of the ELLI dimensions – or of 'zonespace' - to refer to the simultaneous stretching of ELLI dimensions into a rounder shape *and* induction into the personalized methodology. The idea here is that rather like attaching stabilizers to a bicycle, the activities accompanying and preceding the stages of the methodology itself are enabling work in the different zones and making them familiar in a gradual and 'safe' way. This can be further understood by considering the idea that for 'creativity' to be made possible, one needs both free space and *limits.* This can be said to apply to all forms of creative action, whether creative writing, personal growth or teamwork. Faced with a limitless expanse of possibility, any individual will experience despondency and apathy. Combined with constraints to work with however, space for experimentation can be productive and fruitful. The more confident one becomes with lesser constraints and larger expanses, the vaster the space for creative work will consequently become. In this case then, where the 'zonespace' (or space within the ELLI profile) is limited and confidence is low, the constraints are initially kept small, allowing experimentation within a clearly defined, almost familiar 'space.' As this experimentation becomes second nature, the limits can be gradually elasticized or 're-scaffolded', giving the learner more and more room to take personal responsibility as the project progresses. The idea would be that at the end of the project learners have reached the point where they would be prepared to undertake a similar project with a much lower degree of 'scaffolding', or structured guidance. It is an approach which relates closely to the notions of *progression* and *differentiation*.

In this methodology, the 'scaffolding' translated into a series of 'pre-stages' to precede and prepare for the initial choosing, and a series of powerpoint-led sessions involving activities and discussion points, giving particularly the initial stages of the process a clear structure as well as significant spaces for increasing personal ownership. In the 'describing' step for example, the researcher plotted a whole class movement from an exploration and discussion of the questions of research, through to learners' production of maps, timelines and log tables in their workbooks (See 'Questioning' powerpoint, **Appendix 6**). With learners' feedback and responses this structure changed and developed over time – significantly it emerged that quite different types of resources were required by the **Vinney Green** cohort. I will return to expanding the nature of the cohort and needs at **Vinney Green** in section **4.6** – the detail which follows refers predominantly to the methodology employed in the **Bath** context.

This led to the development of the 'Scaffolding Resource' pack, including a set of powerpoint presentations to be led by a 'learning guide' (**See Appendices 1, 4 – 10**), a workbook (**see Appendix 11)** and a set of accompanying worksheets (**see Appendix 12).** The complete set of notes for a learning guide are found in **Appendix 13.** In the course of the process, learners keep a log of their work in their personal workbook and ultimately produce a presentation out of the 'new knowledge' they form, which may be a powerpoint presentation, a leaflet, the design for a website, or some other appropriate reflection of their work.

The final version of this resource is designed to take place over a time-span longer than the eight weeks of this particular study; perhaps 3 - 6 months would be appropriate. The 'learning guide' facilitating the process would optimally have regular contact time in a one-on-one context – more detail on this aspect can be found in **4.5**.

A summary of the revised, 'scaffolded' version of the eight-step process is detailed in the following table:

Revised 'Step' and associated Powerpoint	Number of Sessions	Session Aim	Activities
Introduction to ELLI **Simpsons Powerpoint**	1	To introduce the ELLI concepts using the Simpsons Zones	Using the **Simpsons Powerpoint** exploring concepts with discussions
My ELLI profile	1	To enable learners to assess their own learning and set personal targets	Learners take questionnaire, stick in own profile into workbooks and choose two zones to concentrate on, taking tips for these. They can redesign their own theme if they wish using the boxes provided.
Idea-Spinning **Idea-Spinning Powerpoint**	1	To 'scaffold' **creative** personal choice	Following the powerpoint-led discussion learners choose six or so images from a wide choice scattered

			around the classroom and make spiderwebs detailing their personal responses.
Choosing **Choosing Powerpoint**	1	To choose a place of personal significance for the personalized project, scaffolding **learning relationships**	Activities and conversations with partners allow learners to consider their choice-making and personal interests, and move towards selection of a place.
Questioning **Questioning Powerpoint**	1	To scaffold **critical curiosity** and examine and explore the chosen place	Powerpoint facilitates questioning process of scientist or archaeologist; learners produce maps, timelines and log tables.
Reflecting **Reflecting Powerpoint**	1	To scaffold **meaning making** and explore personal narratives behind place chosen	Questioning moves to personal element – learners dig for narratives, emotional responses and personal meaning.
Designing **Designing Powerpoint**	2	To scaffold **strategic awareness** and produce a plan reflecting previous stages	Discussion centres around question of resources and structuring investigation; learners plan their strategy using worksheets.
Collecting	12	To create personal 'new knowledge', scaffolding **resilience** and reinforcing other dimensions.	With ongoing conversations with learning guide learners undertake the collection required for their project, visiting places, people and using books/internet.
Presenting **Presenting Powerpoint**	2	To synthesize information discovered and personal conclusions to present to the class, reinforcing other dimensions	At some point during the collecting process the class considers in detail possibilities for the collation of findings, including the question of how they would like it to be assessed. Individuals produce some form of document or project, which they present to the class.
Evaluating **Evaluating Powerpoint**	2	To personally and formally assess learner's work, and reflect individually and in class on the process, scaffolding **changing and learning**	The personal and formal assessment should be in keeping with learners' own perspectives. This is also accompanied by a personal debrief and a class evaluation session.

4.4 Assessing progress: Using themed 'polygons' and the 'layer model'

An important question at the beginning of this project was how work produced would be assessed. On the one hand, the 'product' would be engendered by an exploration of personal narratives and 'new knowledge' yielded by a unique kind of meaning making not really suitable for any standardized assessment. On the other hand, the 'new knowledge' produced would also involve a negotiation and encounter with the 'real

world' – a gathering of information relating to actual objects and events, and the communication of this to others. The latter cannot be evaluated effectively without external assessment, unless one is to move into a kind of extremely relativistic territory where only personal judgement and 'taste' has any value. This issue was particularly salient for 'at risk' learners who have often experienced very negative incidents of assessment, and often suffer from low self esteem with regard to their learning.

Themed Polygons

One option was to stick to verbal or written personal feedback, which would almost certainly play a valuable role in any such process. However, if this tool was to encourage individual learners into navigating real-world systems, and if it is in the future to have the potential for being used and recognized more widely, some formal element communicating a public level of assessment would be required.

With the learners at Bath, the group as a whole, including learners and supervisors, discussed the issues involved in assessment with the resesarcher, and arrived at the conclusion that a personal assessment using the Simpsons 'progression lines' together with an 'assessment polygon' similar in style to the ELLI profiles they first received, would be most appropriate. The latter, which was developed according to a 'pencil case' theme and an 'archaeologist's toolkit' theme (the latter is consistent with the metaphors described in **Section 4.3,** however the Bath group opted in the end to be assessed using the former) is based on six or seven elements, which together are joined to form a shape (See Presenting Powerpoint, **Appendix 9)**. The idea here would be on the one hand, that rather than forming a hierarchy, such an image can communicate strengths and areas of improvement – that is, it is a *personal* tool; and on the other, that it can incorporate elements of cohesion, beauty and quality that traditional assessment methods omit (See **RSA paper on Assessing Personalized Learning** for further discussion).

The 'layer model'

The second adaptive strategy for assessment, which was designed both to communicate to learners the nature of the journey they are on *and* to enable learning guides to pinpoint clearly how the learner is progressing, is the 'layer model.' This model emerged during the research project, as it became increasingly clear that despite the wide variety of objects and places under inquiry, *all* projects were united by a focus on *change* – and hence by a series of stages of progression. That is, because learners each chose a fixed object or place for their study, the questions they asked inevitably and quickly related in one way or another to the previous states of that place or object, its metamorphosis and the reasons behind this. In fact, almost all learners had begun to progess through the following stages:

Layer 1: Describing (WHAT is your place actually like now?)
Layer 2: Backtracking (What was your place like BEFORE?)
Layer 3: Connecting (HOW has your place changed)
Layer 4: Theorizing (WHY has your place changed?)
Layer 5: Modelling (How can this change be REPRESENTED?

The process thus begins on the ground level with the object, asking *what* is there (where, when and what exactly). This refers back to the first descriptive analyses but incorporates greater detail and factual accuracy. The next level introduces the notion of time and change, although in a fragmented sense where the object (place, idea, person, concept) is examined at earlier stages, which begins to bring about the sense of a dynamic process, a greater awareness of patterns in the object of study. Level three asks *how* the change has happened, which joins or connects up the dots into a line, to form a timeline. This identifies the change as a *process*, and asks for a descriptive account of it. In asking *why* the change has happened at level four, we are asking for the process to be given a causal, or directional account, thereby linking it to other processes. Finally, level five involves identifying, naming and modeling the process, which makes predictions possible for the future; links it to broader disciplines of knowledge and understanding, and also confirms the sense of having created 'new knowledge.'

The 'layers' correspond to the ongoing archaeological theme (and were presented to students in the pictorial image of an object on the ground with layers beneath it to dig into - see 'layers' worksheet in **Appendix 12)**, relating to the identification of clues and deeper probing beneath each question. While this structure does not represent a *hierarchy* of critical questioning, progression into the deeper layers is almost impossible without passing through the shallower ones, and the deeper layers involve processes that are incrementally more complex. Thus, the tool can make visible the development of skills of research without restricting the *direction* of a given exploration, in a way that can be shared by both learner and guide. That is, together (this tool is best used in individual conversations, although it can be explained in a group setting), learner and guide can identify which of the questions the learner is exploring correspond to which layers, and consequently to *decide* whether and how to progress to the deeper levels. Some learners will be at ease in the deeper levels more quickly than others; some learners will not wish to progress beyond layer 1 or 2 throughout the whole project. The layer model can thus become an invaluable means of *target-setting;* the guide can challenge each individual to move one stage beyond the one they feel 'safe', and all learners can visualize the journey they are on. This becomes especially important as each individual realizes the sheer immensity of the territory they could navigate in response to the questions they articulate in the designing stage, since it represents a means of sorting and differentiating the different kinds of information they are navigating.

In Bath, this model was created especially for the 'designing' stage **(**see Designing powerpoint, **Appendix 8;** and worksheets in **Appendix 12)** and was used for later conversations. In Vinney Green, it became an important element in the more structured process which subsequently emerged, as I shall discuss in **4.6**.

4.5 The learning relationship: Creating 'spaces of trust'

One factor uniting the majority of learners in this research project was a significantly low score in Learning Relationships compared to other ELLI dimensions. Many of individuals acquire this 'at risk' status through experiencing significant difficulties in their familial and personal lives at quite a young age. Others have for whatever reason

reached a point where the 'system' is perceived antagonistically – often along with their own formal learning.

In this particular study, the young people at Vinney Green, who were frequently characterized by high resilience along with low scores on the other dimensions (especially learning relationships) were marked by a tendency to be very defensive in any situation demanding personal vulnerability (such as the expression of an emotional reaction or a personal interest), and to immediately withdraw when they perceived any possibility of failure. Indeed the two individuals most noted for this defensive reaction at the beginning of this study (One young man from Vinney Green, and another from Bath) eventually withdrew; the former from the project and the latter from his whole learning programme. There is not the space in this account to debate whether these reactions are likely to stem from personal trauma, choice of lifestyle, inherited or learnt family tendencies or other factors – suffice to say that both cohorts of learners were extremely fragile in this respect, as other learners in this category are very likely to be; and that the Learning Relationships dimension is likely to function as a *key* to unlocking the potential of the other six dimensions.

The ELLI dimensions represent an essentially *relational* paradigm – that is, one which focuses on the needs and character of the 'learner-in-community' as a context for approaching individual and broader social needs. For this reason combined with the problem outlined above, an adaptive strategy was developed which allowed the learning relationship between learner and learning guide to frame all other activities, and to take priority over all other learning objectives.

The term 'spaces of trust' was the name given to this strategy, which essentially consists of a set of values and guidelines for the learning guide. These are aimed at fostering such a 'space' of safety and of mutual friendship, where experiments can be risked and expectations are clear. A summary of these points are noted below:

- The person facilitating the *personalized learning methodology* takes on the role of a **'learning guide,'** which assumes that they are a) committed to the development of the learners in question and b) have some prior knowledge of the pathways concerned; however *not* that they possess knowledge which the other must acquire.
- Learners are treated and referred to in the manner of **'co-researchers'**, that is, with equal status to the learning guide. Their input (positive and negative) is recognized as invaluable to the further development of the scheme.
- **'Conversations'** between learner and learning guide form the cornerstone of the developing process. Here learners can freely articulate concerns, doubts and positive feedback, without the judgements of the whole class.
- Learning guide's first priority is to the young person's forming **life narrative**, rather than to learning objectives.
- Priority is to **listening** over instructing in these conversations: the guide should aim to *enable* the individual's telling of their own story (in the manner of a psychotherapist at times – searching intuitively for 'clues' from which to make suggestions) rather than to direct it.

- **Rationale, limits and expectations** must be made clear and adhered to: the progressions need to be structured in such a way that the learner feels secure, and does not fear imminent exposure or failure.
- **Encouragement** should accompany and precede all suggestions, target-setting and assessment activities.
- The space created must be one where an individual may speak freely; this requires a commitment to **open-mindedness and non-judgement**, especially if young people test the relationship by attempting to shock.
- **Evaluation** gives the process a value – individual and group sessions to critique the process and reflect on progress play a vital role in facilitating ownership.
- **Optional** nature of project must be emphasized (especially in a secure setting) and learner's choice to withdraw must be respected even if reasons seem irrational.

4.6 Before scaffolding – The 'stepping stones' resource

At the stage of initial assessments and briefing, it became apparent that the profiles of learners at **Bath** and at **Vinney Green** were quite different. As mentioned, the **Vinney Green** learners were frequently marked out by high resilience and low learning relationships, where **Bath** could be characterized by a generally low resilience and low strategic awareness. This might be associated with the individuals' own personal stories – the learners at Vinney Green frequently had histories of high trauma, negative or no experiences of role models in the home, and peer groups involved in violence and crime. At Bath, the stories were more often of learning difficulties, issues within the family, low self esteem, drug issues. In both groups the ability range was quite wide.

This contrast meant that the adaptive strategies employed in the two settings differed considerably and increasingly over time, such that ultimately two quite different sets of resources had emerged. The first, described in **4.3,** is the 'Scaffolding resource' (**see Appendices 1 – 13),** made up of powerpoints, worksheets, notes for the learning guide and a workbook which starts mostly empty, for the learner to fill.

The second set was designed explicitly with **Vinney Green** in mind, although several learners at Bath such as Tyron and Jess S (who both left the programme, for reasons not related to this study) would also perhaps have found it more accessible. The defining factor for assessment would be the self-confidence and defensiveness of the learner – the more quickly a learner withdraws from a learning task, the less likely they are to be able to cope with the vulnerability required even in the 'scaffolded' version of the *Personalized learning methodology.* The second resource, which is referred to as the 'Stepping stones resource' consists of a workbook (see **Appendix 14)** and a set of notes for a learning guide (see **Appendix 15**).The workbook is made up of a series of stages based on the scaffolding powerpoint series (see **4.3),** except that the 'layer model' (see **4.4)** is worked explicitly into the format and all activities of highly structured 'tasks' which are well-defined and offer smaller spaces for experimentation and creativity. The programme still focuses on a particular place and leads to the development of 'new knowledge' in a form which can be presented to others. However, the stages are more pre-determined, the targets are more modest, and the projects are more likely to produce

creative posters, or simple leaflet designs than complex presentations. However, this route is designed to be a 'stepping stone' to a process like the scaffolding programme, and should help develop the creative capacities and confidence necessary for the second kind of scheme.

5 Case Studies

The following three accounts are the stories of three young people at **Bath** who took part in this project. These young people who greatly enjoyed their role as 'co-researchers' have given permission for their names and work to be cited, and for their comments to be reported.

5.1 Jess E

Jess E had a fairly expansive, although somewhat irregular ELLI profile at the beginning of the study, with markedly lower Resilience. She commented even then that she thought the high changing and learning dimension was likely to have changed since she had begun her E2E course at **Bath.** Jess' literacy level is good, although having dropped out of school in year 9 she has lots of gaps in her learning skills and she has no GCSEs or comparable qualifications.

Figure 5.1a: Jess E's 'pre-' ELLI profile

Jess started by choosing as her object 'my mum', but as the group moved through the initial stages she contextualized this by focusing on a moment where she and her mother and brother had been in Cheddar Gorge - *'I chose this person and place because it was the time in my life when things were just normal at home and it was just me, my mum and my brother and we were all happy'* she wrote in her logbook at

the *Reflecting* stage. From here she went on to concentrate increasingly on the place itself – Cheddar Gorge, and how it had changed through time.

Initially, Jess found the process confusing and disorientating and she hit moments of wanting to give up. *'I don't normally stick at things'* she said, at the end of the process; she was not used to bringing tasks without clearly defined ends through to completion. In her individual debrief Jess said that the most difficult part of the project had been coming across so much information so early on, which together with the new and unfamiliar concepts they had been encountering made her feel overwhelmed. However, later she commented that if she had not experienced these feelings, she wouldn't have reached the point she did. She felt strongly that the process itself had taught her valuable lessons about learning that she could not have grasped just by thinking about it.

For Jess the moment of seeing her leaflet (see **Appendix 16)** come together was a defining one. '*I feel proud of myself, that I can make that, my leaflet. And all the information I found out, I didn't realize it was so interesting. I'm glad I've seen it through – I wanted to give up – and put so much work into it.'*
She kept her workbook (see **Appendix 17** for sample**)** carefully ordered, drawing on her strengths in meaning making to draw links and organize the information she was finding in a meaningful way. Discovering a dormant fascination with adopting a historical mode of approaching her questions, together an interest with geographical and geological phenomena such as the formation of caves, stalactites and stalagmites, Jess' project evolved increasingly into a methodological exploration of the stories behind the gorge as it is now. As she progressed she was able to depend less on the structuring aid of the researcher, and make more decisions herself – which questions to discard and which new ones to adopt; how to organize her time, and the design of her final

leaflet and presentation to the class. For her, the most interesting finding which became the central feature of her 'new knowledge' was the discovery of *'my cheddar man'* – that is, an ancient skeleton which had been found in the caves of Cheddar Gorge. Since one of her original questions had been *'Did anyone live in the caves before?'* this was a pivotal moment; she had found exactly what she was looking for, and more questions emerged as a result of this.

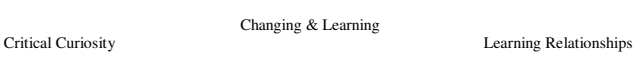
Jess' excellently presented leaflet (see **Appendix 16)** takes the reader through time sequentially from the creation of the caves *('Our journey begins in the caves of Cheddar Gorge'*) to the discovery of the cave man ('*As we go through time a bit more'*) to its current form ('*Here and now'*), evidencing her increasing confidence in the ELLI strategic awareness dimension. Her proudest achievement was the final remark which drew her themes together, the title she chose *('Cheddar Gorge: What lies beneath?'*) and her structure together into the phrase; '*Who knows, take a trip to Cheddar Gorge and you may be the next person to discover the hidden beauties that lie beneath!!!'* A map and her personal story are the final two elements adding to the complete form, which is animated throughout by not only her researched information but also by personal reflection, attention to the readership *('if you dare to enter'*) and descriptions originating from her own experience: *'Inside the caves of Cheddar Gorge there are damp, dark caverns where the sunlight never enters, in which unbelievable rock formations are changing every day.'*

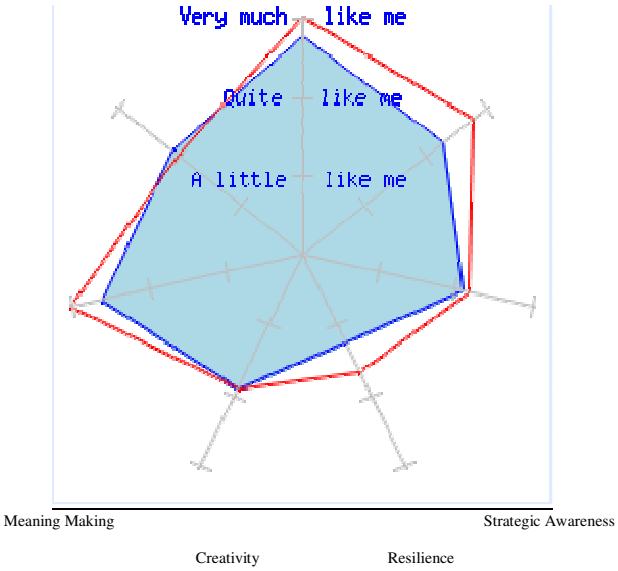
Jess found the idea of presentation daunting despite being ordinarily confident in her speech, and spent a long time rehearsing her talk! The final presentation was a guided tour of the leaflet displayed on OHPs, where she was able to relate her main points and answer the class's questions almost without looking at her notes.

In her final debrief Jess was enthusiastically positive about the process; *'It's made me not so scared to learn other things,'* she said. *'It was a tiny little project and it spiraled into all these other things that were connected.'* For her it was a key time of attitude change - *'I didn't think I could learn any more but now I believe you can.'* The most important moment for her was the group evaluation session which had brought it all into focus for her. It was at this point that she was able to reflect on *'how deep the project went. It's not just about Cheddar Gorge, it's about life stuff.'*

According to the 'layer model' of assessment (see **4.4)** Jess was able to work comfortably in levels 1-3 (As far as Connecting: 'How has your place changed?'), and towards the end of her project she also made inroads into layer 4 (Theorizing: Why has your place changed?) as she identified geological processes behind the formations of the caves as they are today. As Jess' profile shows, even in the limited six week period she experienced notable changes in her Changing and Learning, Learning Relationships, Resilience and Meaning Making dimensions. She felt that her Creativity had evolved more than the profile showed, but in conversation concluded that it perhaps felt so different because she was increasingly confident in letting her creative impulses flow into other areas, whereas before she would not have thought to attend to these in her work.

Figure 5.1b: Jess E's 'pre- and post-' ELLI profile

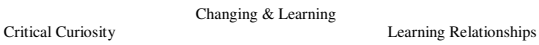


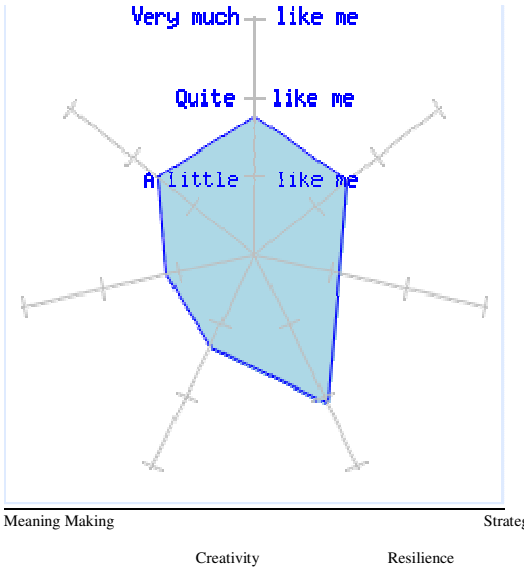


5.2 Richard

Richard's ELLI profile was more comparable to those of the **Vinney Green** cohort than to those of his contemporaries at **Bath.** He had moderately high Resilience, but scored lower on other dimensions, especially in Meaning Making and Strategic Awareness. In the first conversation with his learning guide, Richard opted to concentrate on these two dimensions (which were referred to as the 'jigsaw zone' and the 'pilot zone') for improvement, throughout this project. Richard had achieved some GCSEs at school but had found it difficult to engage there and had later dropped out of a college course.

Figure 5.2a: Richard's 'pre-' ELLI profile





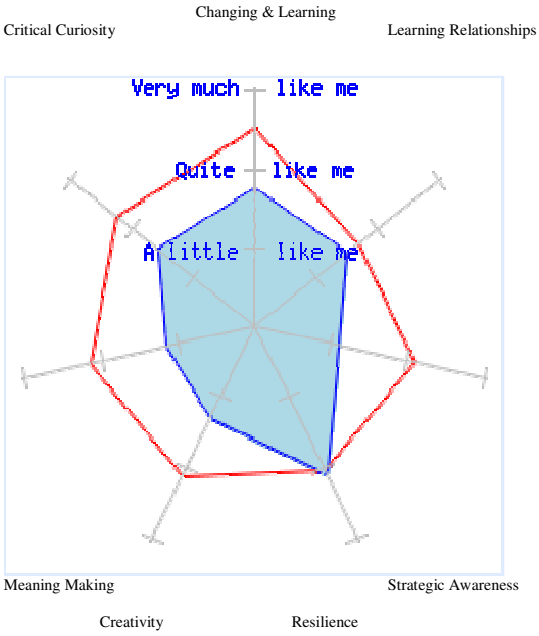
Richard chose as his object a racing car which had been used in a film, in which he had had his photograph taken. *'I felt that the moment I was in the car. I just wanted to drive it because I love everything to do with speed, adrenaline, technology and also a piece of history,'* he wrote in his workbook. As the group moved from describing, mapping and logging their object, to drawing out the personal stories, to generating questions which would drive their research projects forward, Richard chose to ask questions (see **Appendix 18** for sample) which tracked the effects of technology on the changing psychology of racing drivers. This included examples such as: *'Why is adrenaline so vital to a driver's mindset'*; '*How has Formula One progressed as a sport and been influenced by changing technology?*; and '*How do peoples' minds cope with changing technologies?'*. These seemed logical extensions of his work at the 'Idea-Spinning' stage (see **Appendix 4)** where his chosen pictures included a vintage car (making comments such as *'technological achievement', 'nostalgia,' 'how they designed it years ago*'), a skydiver (*'takes my breath away,' 'boundaries of human extremes, endurance'*) and an icebreaking ship ('*mortal,' 'unpredictable,' 'extreme conditions.*')

This process lead Richard gradually into the territory of technology and psychology, where he found an incredible depth of knowledge to respond to his curiosity - *'The most interesting thing I learnt was about how G-forces work on drivers' bodies,'* he commented. His final presentation was a well-structured talk including a video clip and a series of worksheets (see **Appendix 18)** including a timeline of the development of Formula One technology and the exercises drivers undertake before a race. While Richard was tentative in his speaking, his depth of insight and the connections he had made demonstrated that he had been working successfully in level 4 (Theorizing: Why has your object changed?) of the layer model (see **4.4).** In the past, Richard has struggled with navigating his own learning without becoming frustrated, and it was a new thing for him to attend to his critical and creative processes to drive the process. The results of doing so surprised him considerably, and he repeatedly reiterated how delighted he'd been with the results; *'It was quite a*

lot of work – I was surprised at how much I chose to do, it gave me the energy to work' he said, in his individual debriefing session. *'I find it easier to have access to creativity - before I didn't believe it was possible for me.'*

Richard had some insightful comments on why others like him dropped out of school: *'Students often don't get on with school because every student has to do the same work, you all do one thing. They need more choice in approach – it gives you more freedom to decide instead of depending on what the teacher wants.'* As Richard's final ELLI profile shows he made some astounding progress in his own learning in six weeks, most dramatically in the Meaning Making and Strategic Awareness dimensions he'd chosen to work on, but also in all other dimensions apart from resilience which he'd already scored more highly in. The result is a much more rounded profile and a positive outlook for the future - *'I feel more confident when I'm speaking and more creative,'* he concluded.

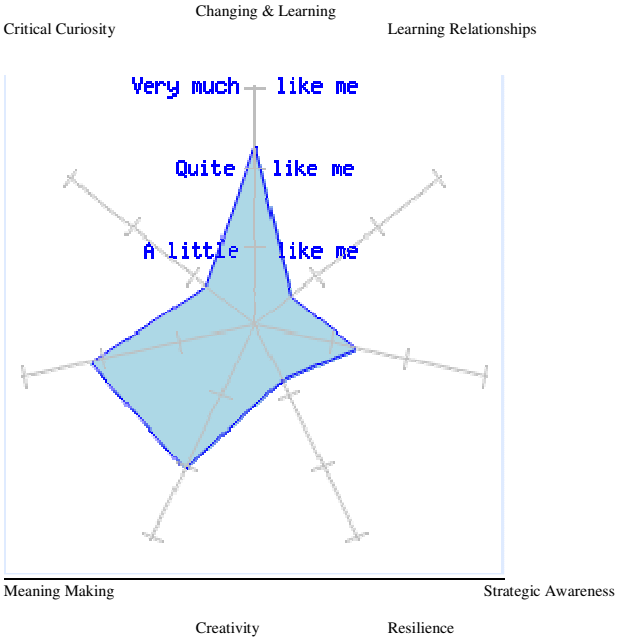
Figure 5.2b: Richard's 'pre- and post-' ELLI profile



5.3 Danny

Danny is an intelligent young man with profound dyslexia who struggles a great deal with his literacy. His initial profile showed that he was moderately strong in the Changing and Learning, Meaning Making and Creativity dimensions, but he had a comparatively very low score in the other four dimensions, giving a quite irregular shape. In his first conversation with his learning guide, Danny chose to focus his efforts on his two lowest scores, Learning relationships (or 'team zone') and Critical curiosity (or 'detective zone').

Figure 5.3a: Danny's 'pre-' ELLI profile



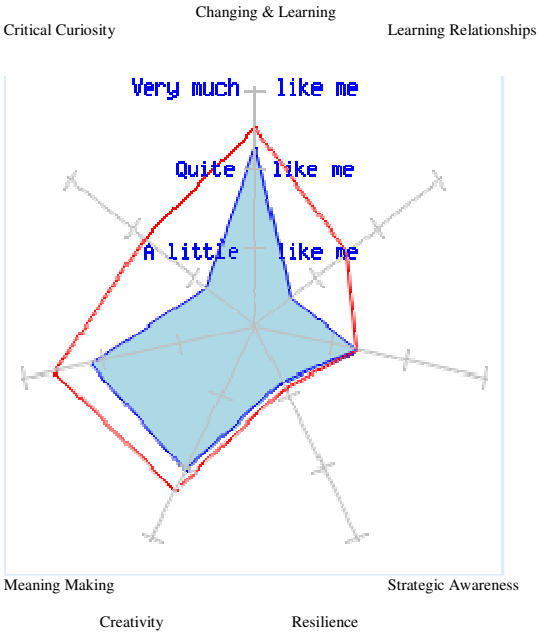
Danny's chosen object/person was one of the pictures he had used for the 'Idea Spinning' activity (see **Appendix 4) –** an image of Dr Who flying through space. This proved somewhat problematic to freeze in time! As the project progressed, Danny chose to change his object of focus to the sun. A fascination with physics and astronomy quickly emerged, and questions (see **Appendix 24** for Danny's layer model) were soon being fired out such as *'What will happen to space in the future?', 'Why does space change?'* and *'Is there more than science in space making things happen?'* Like Jess, Danny was initially overwhelmed by the territory that his deep questions opened up , and he found it hard to stick to the plans he worked out with his learning guide. He also found it very difficult to conceive of structuring these questions into a step by step design, and of visualizing how he might begin to approach each one. However over time Danny gained confidence and worked with increasing autonomy – *'You have to take a leap of faith,'* he commented. By the end he would come back reporting having worked on his project until 4am!

While Danny found the reading and writing elements of the project difficult throughout, being able to 'meet the expert' transformed the experience into a voyage of discovery. A few enquiries made it possible for Danny to meet with an expert in astrophysics who was a former president of the Young Astronomer's Society in Bath. This gentleman was able to bring in special instruments with which to observe the sun, and Danny was soon reporting to the class stories of his discoveries and theories which explained some of the questions he'd posed.
'It's opened my eyes quite a bit to learn how to do these things,' he explained, in his final debrief. '*And it's changed what I think I can do.'*
Danny slept a night in the garden to observe the stars, produced visual timelines to show how the sun had changed and would continue to change in the future, and in his final

presentation talked the class through a powerpoint of images using diagrams on the whiteboard to illustrate and barely glancing at his notes. While Danny would struggle to perform in any kind of written examination and found structuring his project very difficult without aid, he was able to work in all five levels of the 'layer model' (see **4.4),** reaching the point where he could model his findings in the development of a 'timeline of the sun' including reasons for its change and predictions for the future (level 5 – modeling change.) *'I've improved my way of finding out information on certain subjects'* he commented, adding; *'I've got a new way of learning. I have questions, and I scan and pick out the things I need.'*

As Danny's profile shows, he did indeed make significant improvements in the areas of Critical Curiosity and Learning Relationships he'd targeted, as well as smaller gains in four other areas. He wants to further work on his Strategic Awareness (the 'pilot zone') in the future, and was bubbling with opportunities that were now opening themselves up to him - '*that astrophysicist has invited me to his next call-out with telescopes and to a lecture,'* he said. *'So I'll go on learning.'*

Figure 5.3b: Danny's 'pre- and post-' ELLI profile



When he reaches a point where he is 'economically stable' Danny would like to go on to study astrophysics at college. *'I feel a lot more positive about being able to learn,'* he concluded '*– it's taught me different ways of learning – it's not as hard as they make it out at school!'*

6 Evaluation

As stated at the outset, this was a small study in which attention to detail and a focus on the specific needs of the individuals concerned took priority over empirical methodology.

Constraints in the settings meant that before and after ELLI profiles were not possible in the **Vinney Green** setting, and only four young people were able to do both in **Bath** – three of these are discussed in **Section 5 – Case Studies,** and all individual profiles can be found in **Appendix 19.** Because of these gaps, these will not be discussed in detail here, although profiles are of enough interest to suggest that further empirical research could yield fascinating results both in terms of trends and changes possible using this methodology.

In consequence, the majority of significant findings are of a qualitative and narrative nature. This provides significant insight into the impact of the approach for individuals, and has yielded a range of recommendations for the future (see **Section 6 – Implications)** which, like the research outcomes (**Section 4)** may be considered the collaborative efforts of a 'learning community.' However, for the production of statistical data to support these results and give them external validity, further research studies with rigorous experimental frameworks would be required.

In keeping with the methodology devised in response to the aims and objectives outlined in **Section 2** (see **Section 3),** the findings of this study will thus be presented according to the *six adaptive strategies* detailed in **Section 4.** Each section will attempt to relay the impact of the adaptive strategies on the individuals involved in the study including their own perceptions and judgements of them, and hence to evaluate the effectiveness of the methodology for 'at risk' young people in general. Where young people's names are cited, permission has been given for comments and work to be personally attributed.

6.1 Changing the language of ELLI: Using the 'Simpsons zones'

Simpsons Theme

The general feedback on the *Simpsons theme* was very positive. All students except one boy at Vinney Green already keenly enjoyed the television series and were both surprised and entertained by the images accompanying the resources. They also reported finding the metaphors associated with the ELLI dimensions or 'zones' accessible and easy to relate to.

In the redesign of the powerpoints and workbooks into the 'Scaffolding resource' and the 'Stepping Stone Resource' (see **4.3** and **4.6; Appendices 13** and **15)**, spaces were also provided in workbooks for learners to innovate and design their own themes, whether according to television characters, a favourite sport, or another unifying factor such as household tools. This modification was brought about in response to a comment in an individual debrief from the Vinney Green learner mentioned above who did not find the Simpsons theme personally engaging, and who felt that the possibility of personalizing the process would have made him feel more enthusiastic. However, in the extended group discussion at Bath, which yielded a substantial array of positive feedback and suggestions for development, learners were keen to insist that the presentation of the characters *before* this personal redesign was key, since it had enable them to access what were initially quite alien concepts. The characters and stories were needed to first acquire understanding of the terminology; personal redesign would serve for them as an extension of this understanding and a space to employ personal tastes and to 'own' the

concepts. From this point onwards the learner would be able to choose which set to refer to.

Some comments from others outside the project have reflected a concern with using characters who in the television series do *not* grow and change, but remain static and set in their ways. Homer for example is consistently short-sighted and foolhardy in his actions and Maggie does not grow any older. However, conversation with the learners involved in the project suggested that this does not constitute a barrier in engaging with the concepts – learners do not take away the impression that learning is static because Maggie is a baby, rather they reflect on the icon of her being young and themselves being older and are able to envisage a living, changing process. It therefore seems that using characters young people *identify with* from contemporary and popular culture renders the ELLI dimensions comprehensible and desirable for them, and encourages self-referencing.

Language of the 'zones'

Due to the limited time-frame of the study, the terminology of the *zones* was sidelined as the personalized project became the main focus of the sessions. To overemphasize the zones during the introduction of new phases to the project inevitably made it too confusing to cope with a particular task. Whilst it is conceivable that with a longer time-frame more focused activities would be made possible to expand each zone in more detail, one very interesting element of the feedback session at Bath was that the learners felt it unwise to spend too much time trying to rationally comprehend the nature of the zones; *doing* the project was what actually made them accessible to these learners. Whether this might be true for learners in mainstream education is difficult to say, but certainly the conclusion that this cohort came to was that the initial questionnaire and introduction to the terminology, combined with passing reference to them during the activities was sufficient. They later then transformed into three-dimensional, workable concepts during the *evaluation sessions,* after learners had taken their second ELLI questionnaire and received their altered profiles. As I shall explain later, these comments were accompanied by suggestions of a possible chronological format for schools and other settings.

6.2 Using the 'archaeology' metaphor to start with a *place*

Many students agreed in the feedback sessions that using the archaeological imagery had helped them to intuitively grasp the complexities of the personalized methodology, and to conceive enough of the process to make the '*leap of faith'* Danny believed was necessary to gain maximum benefit from it. Using terminology like 'digging,' 'clues' and 'layers' brought the most important elements of the process into a more practical light, which also helped students to relate what they were learning to the real world:

'*The project is meaningful because it brings learning into a 'real' context'* one learner remarked in the group evaluation session. This meant for students that the tools they gained were transferable to the real world, rather than being bound to the classroom – '*It helps you with life skills, skills and information you need,'* another student commented. Others felt that this also engaged them in a way that meant they could allow their own curiosity to drive their learning forwards - *'you learn more about things you want to*

learn about' – such that the acquisition of knowledge and understanding happened almost fortuitously:
'*It's like learning by accident,'* suggested Jess E in the group evaluation session.

The **Bath** group was also enthusiastic about the journey they had been on with their chosen objects and places. One student even remarked that '*If I did this at year 9 I might still have been there in year 11*.' It was in collaboration with the **Bath** group that the idea of limiting the choice of *place* emerged which was discussed in **4.2,** and all agreed at the end of the study that this would add to the cohesion of the group process while still maintaining the vital elements of choice that had made the project so different for them - *'The best thing about doing this for me was that <u>you</u> get to choose,'* remarked Paul in a debriefing session – *'it's more personal and less rule-bound. I liked the freedom.'* Students felt that the opportunities to visit their places and meet people connected with their research questions, and agreed that if resources and time permitted, more opportunities to find out information this way rather than having predominantly to use books and the internet would have brought the place focus to life even more.

6.3 The notion of 'scaffolding'
The scaffolding dimension of the project was designed in collaboration with the learners at **Bath** in mind, but their feedback on this element reflected a view that this approach could also be very useful with others. *'It could help people in prison, as a way out of crime. It could help motivate them to live a better life, and get self-esteem,'* commented Paul. Jess E agreed, adding that that '*It could change peoples' lives because it helps you to think deeper, to think who you are as a person*.**'** The group as a whole felt that the project was a '*positive learning experience'* because it combined 'safe' elements with moments of 'risk' or even of 'confusion.' That is, it challenged them to move into unfamiliar territory, while still providing guidance and boundaries to work with, which was the aim behind the scaffolding strategy. 'Idea-Spinning' for example, a form of 'pre-stage' was greatly enjoyed by all learners, and the results were well-presented and fascinating (see **Appendix 25** for examples). The activity was designed to introduce unfamiliar patterns of working, especially responding to one's intuition, thinking associatively and drawing not only on cognitive but also affective resources.

An awareness of this dynamic, combined with the fact that the methodology took their interests and personal interests seriously led students to feel that been able to gain quite a deep understanding of how they each worked as learners - '*But you only realize afterwards*,' one girl related. One suggestion made about the scaffolding elements was that incorporation of a projected 'timeline' into the introduction indicating the time-span of the project and its possible outcomes would have been a further kind of 'structuring' which would have made them feel more willing to engage at the beginning.
Several commented that if they were to start the process again they would be able to '*choose differently and more wisely*,' and would approach the whole project in a slightly different way – '*I'd think it through more*' – *'I'd be more willing to go with what comes into my head,'* others claimed. When asked what advice they'd give others about to undertake a similar venture, Matt suggested *'Don't be scared – see where it takes you.'*

The group agreed that they would like to have the opportunity to do a similar project in about two years' time, to be able to reflect on how they'd continued to change.

The projects themselves evolved into fascinating productions, surprising both learners and their supervisors for the quality, depth, breadth and personal ownership of the themes adopted. The chosen themes ranged from the story of a particular volcano in Borneo including its formation and conservation issues for the future (see **Appendix 20** for final powerpoint presentation); to a study of limousines and luxury transports through the ages see **Appendix 21** for final powerpoint presentation); to a comparative study between life for the learner's nephew growing up now and life for his grandfather in 1940s Easton (see **Appendix 22** for final booklet). Presentations were varied, including powerpoint presentations with whirling graphics, leaflets described on OHTs, and talks with worksheets and video clips. All learners described feeling 'proud' of what they'd achieved, and felt that they had exceeded their own expectations.

During the group evaluation session at the end of the project, the learners at **Bath** also had some insightful suggestions with regard to a possible programme for using this methodology in mainstream education. They all felt that a 'scaffolded' *personalized learning project* would be most useful in year nine, the period at which – in their opinion – the majority of learners can become disengaged by the apparent irrelevance of the curriculum and leave the education system. This would also come at a point when learners are choosing pathways for their GCSE courses, and could play a vital role in equipping young people to make decisions about their future based in revelations about their personal interests. Furthermore, it would be an excellent preparation for the coursework elements of the GCSE course. The Bath learners would follow this up with a further, advanced project taken during year 11, as a point of comparison. They indicated that it would be extremely interesting to see how one had changed across two years, and felt that it would provide an ideal basis from which to make post-16 decisions.

6.4 Assessing progress: Using themed 'polygons' and the 'layer model'

All students appeared to enjoy discussing the themed 'polygons' they had designed, and there were moments of unexpected pride as learners agreed with their learning guides what their especial strengths had been whilst doing the project, and how they felt they could improve in the future. The space for personal comments and the unique shape of each person's polygon seemed to suggest that this could be quite a workable tool for assessment in the future.

The 'layer model' initially caused some confusion when presented to the class group, but it proved very useful on a one-to-one level. It was particularly helpful as a tool for the learning guide to use when discussing revisions to original plans, as learners were able to identify which layers they had already worked through (see **Appendix 24** for sample), and where their remaining questions fitted into the scheme (that is, filling in missing gaps in the shallower layers, or taking the project 'deeper'). According to the layer model (see **Section 4.4)** of the six **Bath** learners who completed their presentations, two learners spent at least some time working at level 5 (modeling change); two worked effectively

into level 4 (theorizing), one was competent down to level 3 (connecting) and one remained mainly at level 2 (backtracking). All of these learners were involved in evaluating where they felt comfortable learning and in setting targets for themselves.

The model also appeared to have a positive effect on the language it made accessible for students to talk about their own learning. Matt for example commented in his individual debrief, *'I reflect more on what I do now, on my skills… and I'm more interested in things.*' Matt's project **(see Appendix 22),** which moved between levels 1 and 3, involved tracing his family tree, and then relating the life of his nephew (his chosen object) to that of his grandfather, specifically when he lived in Easton in the 1940s. When asked what had interested him the most, he was able to remark, '*The best thing for me was finding out about my granddad and what life was like for him… noting and exploring the differences.'*

6.5 The learning relationship

The opportunity for conversations, ongoing evaluation and thorough debriefing on an individual and group level was certainly a vital aspect contributing to the success of the **Bath** personal projects. In their personal debriefing sessions, several students commented that the 'evaluation' element of the project had been the defining factor behind their personal growth; 'evaluation gives it a value' appeared to be the gist behind their statements. Most agreed that the group evaluation session had been a particular highlight; this was a moment where many experienced a sudden realization of what they had actually been doing – '*it brings it all into focus'* was Jess' view. All **Bath** learners seemed to make their greatest leaps in confidence and personal insight in the individual conversations, and became increasingly willing to reflect in depth on their learning and its relationship to their own lives as time progressed. The two most crucial moments involving the 'spaces of trust' were found to be :

1. The 'conversation' following the 'Designing' session **(**see **Appendix 8),** in which the learning guide draws out all of the learner's questions surrounding their object and enables them to construct a structured sequence from it
2. The individual debriefing and group evaluation sessions which make it possible for each person to realize and take ownership of what they have learned.

In the **Vinney Green** setting 'one-on-one'contact was not always possible, and a noticeable difference was observed between the times learners were able to work in an individualized setting, and the times they were in a small group with their peers. Due to situational constraints, one young learner for example spent a number of sessions working individually with the researcher, being only observed by others engaged in other activities through a glass screen. This young man produced some outstanding work (which will be outlined in **6.6)** in the earlier sessions despite a very limited patience with any task; but back in a group of three, his moments of engagement became briefer and less regular. Returning to a 'one-on-one' context for the final two sessions, the enthusiasm and personal insights returned, suggesting that the presence of peers was a key element. A second boy of very high fragility and dependence from the same group of three (mentioned in **4.5)** dropped out of the study in the first group session, despite

having worked industriously for five previous individual sessions. Working with the group of three older boys was difficult for similar reasons – due to security constraints it was impossible to incorporate individual 'conversations,' and behaviour during sessions could very quickly become defensive. It would have been very different to see how these individuals responded differently in a 'one-on-one' setting.

It would even be possible to claim that those elements listed in **Section 4.5** were in fact the most crucial ingredients of the whole process. It is perhaps rather intuitive that without a concentrated cultivation of trusting spaces where individuals feel valued, listened to, and important as unique human beings, any innovative methods will be just about useless to recapture 'disengaged' learners' belief in themselves as learners. Furthermore, whilst this seems to apply particularly to young people whom the 'system' has failed, it is more than likely to be a principle generalizable to the majority of young learners: even the youngest students are able to perceive when they are being treated more as potential statistics or 'target-meeters' than as people.

These conclusions, combined with the earlier points made in the 'scaffolding' section (**that is…)** were the driving force behind the development of a second resource pack for 'at risk' learners with a higher degree of structuring and a lower element of personal vulnerability, aimed especially at secure settings or individuals assessed as being at particularly high risk of disengagement (See **Section 4.6)**.

6.6 Before scaffolding – The 'stepping stones' resource

The 'stepping stones' resource was developed as a *consequence* of the project and in particular of the work with the **Vinney Green** learners, hence a full evaluation would not be possible at this stage. However, the worksheets which make up the new workbook (see **Appendix 14)** were designed during the project with this cohort in mind and hence have already been trialed to some degree.

Learners had frequently missed a lot of school in the past, but following the programme, all demonstrated abilities to think deeply and critically, creatively and laterally. All however were quick to withdraw from activities which were uncertain or in which they risked failure of any kind, as was detailed in **4.5**. This was highly frustrating for the learning guide – learners would demonstrate flashes of brilliance and then retreat. Reviewing the work they had done, **Vinney Green** learners remarked that they had found particularly the sheets (those adapted for the 'Stepping Stones resource') which had defined 'tasks' and clear progressions much more manageable than the more 'open' activities they had originally been set towards the beginning of the project. The learner who had most difficulties with his literacy particularly agreed with this, although all four of those who completed their projects felt that this would have helped them to work effectively. Certainly the most successful sessions leading to reflective questions, industrious work and interesting discussions were those which were the more structured and clearly designed kind.

The profiles at **Vinney Green** were very variable, as discussed in **Section 4.6,** and the actual work produced represented equally as wide a range. The projects which emerged were nevertheless fascinating and produced some moments of group conversations of an excellent quality; one young man designed a poster on why cannabis should be legalized for example, another a leaflet campaigning against football hooliganism and a third a poster on 'What makes a good family.' The young man mentioned in **6.5,** with whom more individualized contact was made possible developed the intriguing theme of 'Walls' for his project, which involved forming the following framework of questions, based around his chosen object – his dog (See **Appendix 23** for spider and questions):

1. My dog and why he means a lot to me
2. Why do animals end up in shelters?
3. Why do they lock people up?
4. Does locking people up make a difference?
5. How have they got the power to lock people up?
6. What are their rights?

Due to constraints on time and resources, and this young man's return to the group for subsequent sessions, the project focused on the earlier two questions, and the learner in question produced a well-researched poster on why bulldogs should not be banned!

The redevelopment of the resource reflects the highlights of these contributions, but has restructured even the later aspects of the project into very clear stages with more readily definable targets. This workbook is now intended to work without powerpoints (except for the **Simpsons Zones presentation**– See **Appendix 1**), and each learner can proceed at his or her own pace (See **Appendix 14**).

7 Findings

This study shows that for 'at risk' learners:

- The *ELLI assessments* are very useful tools for diagnosis and ongoing self-evaluation, but the *concepts* involved are more effectively grasped when encountered through practical activity and metaphors than through theoretical explanations.
- The *personalized learning methodology* is ideally suited as a means of introducing *ELLI concepts* through practical activity, especially when it is positioned between a first and second *ELLI assessment* and is accompanied by elements of personal and group evaluation.
- The *personalized learning methodology* is attractive to those who have 'disengaged' from the system and can be an important route for such individuals to (re-)discover the value of learning in their own life.
- The *personalized learning methodology* can be adapted into different forms with differentiated levels of support and thereby promote a) increasing autonomy and self-confidence b) growth and change in all ELLI dimensions over even limited periods of time.
- The *personalized learning methodology* can provide evidence for Key Skills elements of recognized training courses, such as 'Improving Own Learning,' 'Communication,' and 'Problem-Solving.'

However, in order for the complex aspects of *ELLI concepts and assessments* and the *personalized learning methodology* to be made accessible for this kind of learner, certain modifications are required. One would need to:

- Re-clothe concepts in **language** which is familiar and dynamic.
- Communicate using **themes** which learners can identify with: ideally these should be contemporary and originate from the (potentially subversive) canon of 'popular' culture.
- Make fullest use of **practical activity** and **metaphors** to communicate complicated concepts.
- Limit the broad scope of the '**choice' step** of *the personalized learning methodology* to the degree that a group can pass through later steps concurrently.
- Reconfigure the eight 'steps' in such a way that the ELLI dimensions the methodology relies upon are simultaneously **'scaffolded**.'
- Combine elements of **'safety'** with elements **of 'risk'** into a sequence of activities leading only progressively into less structured choices.
- Devise new **methods of assessment** that motivate and affirm, rather than communicating judgement and dismissal.
- Pay attention to the cultivation of healthy **'learning relationships'** before all other ELLI dimensions.
- Have **differentiated learning pathways** available for learners with different levels of fragility and dependence subject to assessment.

As this report has discussed in some detail, six possible **adaptive strategies** which would respond to these needs could be:

- Adoption of the language of **'zones'** and the use of the **Simpsons** theme to communicate *ELLI concepts*. (See **4.1, 6.1)**
- Use of the **'archaeological' metaphor** to communicate the *personalized methodology* and concentrate on an excavation of a chosen ***place*** only (as opposed to a place, person or object). (See **4.2, 6.2)**
- Use of the '**Scaffolding Resource,**' of powerpoints, worksheets and workbook, to guide the learner through eight revised steps which include activities design to 'stretch' ELLI dimensions. (See **4.3, 6.3)**
- Focus on the cultivation of **'Spaces of Trust'** *before* the setting of learning goals, including the establishment of individual 'conversations' with the learning guide as a central part of the process – especially in the 'Designing' and 'Evaluating' steps. (See **4.4, 6.4)**
- Use of the 'Stepping Stones Resource,' of structured workbooks as a differentiated alternative for learners assessed as extremely fragile or dependent.

8 Implications

These findings could have significant impact on existing policy, practice and research. For learners 'disengaged' from conventional learning, this study would imply that a powerful benefit to their confidence as learners and to the success of programmes designed for them, could be gained through:

- Incorporation of programmes such as the 'Scaffolding Resource' (see **4.3)** and the 'Stepping Stone Resource' into key skills elements of existing educational

frameworks, such as the 'E2E' programme or of the curriculum in young offender's units.
- Adoption of the **six adaptive strategies (**see **Section 4)** in the implementation of this approach.
- Creation of a certified and assessed scheme recognizable by employers using the *personalized learning methodology*.
- Further research and experimental studies to identify patterns in ELLI profiles and assess empirically the results of using the **six adaptive strategies**.

For learners in mainstream secondary school 'at risk' of disengagement, the following suggestions are offered:

- That the 'scaffolded' or 'stepping stones' version of the *personalized learning methodology*, framed by a first and second *ELLI assessment* be adopted as a primary means of engagement *before* difficulties reach the point of disengagement.
- That further research be conducted to establish whether this kind of intervention could reduce the likelihood of disengagement.

This study would also contribute the following recommendations to the general research agenda surrounding *ELLI concepts and assessments*, and the *personalized learning methodology*:

- That where a pattern of weakness in Learning Relationships is identified, this be regarded as the key ELLI dimension to the 'stretching' of the six others and that, in general, a paradigm shift towards a 'community-centred' or 'relationships-centred' ethos be considered a vital pre-condition to healthy learning.
- That schools consider integrating an extended (3 – 6 month) project based in the *personalized learning methodology* for young people in year nine to complement the traditional curriculum, prepare for GCSE options and coursework.
- That this be followed by an advanced project in year 11 to evaluate change and provide a further springboard into choosing future pathways.
- That the secondary school curriculum be reformulated to meet the needs of the twenty-first century (or 'post-mechanical age'), including a possible focus on *place* as an interface for the synthesis and exploration of other disciplines.

9 Conclusions

The findings and implications of this study offer a provocative and powerful stimulus for review and change in both specialist and mainstream education settings. True to its 'archaeological' design metaphor, it 'unearths' some invaluable principles and practices that either illuminate or add significantly to what is known about how learners can *learn to learn* when learning itself has become part of their problem. In this sense, it is addressing and helping to unlock a notorious 'Catch-22' problem: how can extremely fragile and dependent learners begin to learn to take responsibility for their learning? It makes apparent the need, well known to those in the field of special educational needs, to be always ready to 'step backwards from where you thought you might be able to begin'.

Firstly, it is worth noting that the Eight-step Process, supported by ELLI, was found to be ideally suited to disengaged, at-risk learners, who welcomed the freedom to make choices and do things their way but, crucially, it was also found that 'even choice needs scaffolding'. Where learning power itself is compromised, no learning capacities can be taken for granted. The concepts of 'scaffolding' and 'stepping-stones', temporarily supporting normal function despite fragility, and providing access which would otherwise require too great a stride or leap, arose from apprehension of these barriers to learning.

An important feature of the study, of which those two metaphors are a good example, is its reflection on an optimal language for learning for these contexts, and it offers some significant contributions to that language. The importance of metaphor and story in introducing new concepts is well documented, but where low literacy and cultural alienation have been factors in disengagement from learning, it is even more critically important to get that language right. The 'zone' and 'archaeology' metaphors and use of *Simpson* characterization have made complex ideas not only accessible but attractive in prospect to disaffected learners. The 'scaffolding' and 'stepping-stone' metaphors, 'idea-spinning' and 'layered assessment' model – echoing the archaeological theme – all add significantly to the professional language of learning.

Another principle clear in the findings is the need for flexibility and responsiveness, in both 'curriculum' and 'pedagogy'. The methodology for this project was adapted to accommodate changes, such as the scaffolding and other adaptive strategies, that were initiated in response to learners' responses to it. Importantly, the title 'teacher' may be rendered inappropriate for one with whom learners are 'co-creating' their own learning processes – and so has been replaced in this documentation by the title 'learning guide'.

Right at the heart of this theme of adaptability is the dynamically adjustable relationship between freedom and limits, touched on in the RSA paper on Leadership for Personalised Learning and again found to be of critical importance in the experience of these learners. The idea of 'zonespace' - scope for creativity that can be elasticized, or 're-scaffolded' to suit the learner's capacity at any given point in her learning narrative for 'extension' - gives a renewal of meaning to the Vygotskian 'zone of proximal development'. It also pre-supposes a high level of professional commitment, judgement and skill in the 'learning guide', who is working alongside learners helping to 'uncover the layers of their learning' and must therefore accept responsibility for adjusting the balance between rules and constraints, for familiarity and security, on one hand and freedom and scope for exploration and developing autonomy on the other. Critical to the role and one of the key findings of the research, is the need for that commitment to be to the 'life-narrative of the learner', rather than to a set of learning objectives devised on her behalf. This brings into focus the other fundamental theme in the findings, framed by the idea of creating 'spaces of trust' and echoing the ELLI learning power research: the paramount importance of effective learning relationships, characterized by *trust, affirmation and challenge*.

The case studies are fascinating, firstly for the sense they convey of young people's surprise and excitement at exceeding their own expectations, achieving and acknowledging significant change in themselves and their attitudes to learning; secondly

for the freshness of their insights and the ingenuous power of their narratives to support the research. That is apparent in Jess's experience of 'getting past being overwhelmed' and linking her factual learning with the deeply personal: *"It's about life-stuff!"* It is in Richard's linking of technology with psychology, like an ergonomist, and his surprise at how much he chose to do: *"It gave me the energy to work!"* It is in Danny's renewal of his struggle with his specific learning difficulty to the point where he declares he has found a new way of learning *"and it's changed what I think I can do!"* Although the sample size is tiny, these are replicable exemplars of nothing less than transformative learning. What is more, the narrative evidence is supported by significant changes in their learning power profiles, quite remarkable in so short a timescale although the focus was intensive and specifically targeted by the learners on their chosen dimensions – invariably those in which they achieved the most significant gains.

It was only in the last phase of the project, when the young learners evaluated their own learning, that the extent of their own transformation became apparent to them. Without knowing it, they began to report on it in a way that embodies and vindicates the theoretical purpose of the whole personalised learning project. In discussion of the 'chicken-and-egg' question of when difficult concepts – such as the ELLI dimensions - should be introduced, they were clear that the ideas only really came to mean anything at the end, when they reflected on what they had achieved and saw that it could be named and measured; but they agreed that it had been necessary, in order for that to happen, for the ideas to be introduced (not laboured!) at an early stage. They were saying, effectively, that whilst they were busy 'learning by doing', their 'meta-learning' could proceed almost subliminally: *"It's like learning by accident!" "But you only realise afterwards!" "Don't be scared: see where it takes you!"*

If professional educators can heed that advice from these 'fragile' learners, build the trust implied by it and recognize, as the learners did, that in transformative learning there is always a combination of 'safe' elements with 'moments of risk' and even confusion, it might be possible to open up programmes of study using these transferable strategies and principles, that are genuinely personalised, co-creative, that enable learners to find their own pathways to where we all want them to be, knowing how and why they got there, instead of asking them, in Douglas Barnes's words, to "arrive without having traveled"[1].

[1]Douglas Barnes (1975) *From Communication to Curriculum*