Learning and Self-Awareness: an enquiry into Personal Development in Higher Education

The ViTaL Development & Research Programme

Report No. 8
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Appendices: (on attached disk):

- **Appendix 1**: List of Institutions involved in the enquiry
- **Appendix 2**: Briefing paper: Introducing ELLI and its Values and Purposes
- **Appendix 3**: Example summaries of local enquiries
- **Appendix 4**: Qualitative data collection schedule
- **Appendix 5**: Qualitative data collection notes
- **Appendix 6**: Briefing for ELLI Data Collection
- **Appendix 7**: Report from the Data Analyst

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**Tim Small**  
**Ruth Deakin Crick**  
2\textsuperscript{nd} October 2008
Learning and Self-Awareness:
an enquiry into Personal Development in Higher Education
using the Effective Lifelong Learning Inventory to examine the relationships between learning power and the development of personal qualities for lifelong learning and employability in a range of Higher Education contexts.

This is the Report of an ELLI Research and Development Project undertaken in partnership with fourteen English universities between March 2007 and October 2008.

Acknowledgements:

The authors would like to express their grateful thanks: to Jamie Thompson at Northumbria, who inspired, recruited and co-ordinated such a talented assembly of Higher Education colleagues and institutions and built and led the very extensive work at his own; to all the project leaders, for their initial interest, the skill and imagination with which they incorporated the project’s aims into those of their own settings and for the persistence with which they turned them into inquiry and action; to a core group including Mark Atlay, Patricia Clift and Chris Edwards who hosted events and shared management responsibility; to Lowry McComb for initiating and maintaining the ‘Group ICT Hub’; to Rob Ward and the CRA for welcoming ELLI workshops at successive conferences; to the 2,000 or so students and staff who encountered the ELLI survey either in the training or for the enquiry and gave the concepts their undivided attention, some briefly, some in a much more sustained and developmental way; and, finally, to all the students and tutors who generously gave time, thought, examples and reflections to the evidence gathering process.

They would also like to thank Helen Jelfs at the University of Bristol, for her expert cleaning and analysis of the numeric data, Sue Woodhead for administering the programme and all the practitioners and researchers who have applied the original ELLI research to new and worthwhile purposes, for the many insights they and their enquiries have brought to the programme so far.
1 Introduction

This report is one outcome of what the partners in it believe to be a unique collaboration between HEIs in such number and of such widespread character, age, reputed strength and geographical location in England. The networking that led to this collaboration had a focal point at Centre for Recording Achievement (CRA) conferences in 2006 and 2007, a key theme being a shared interest in making the challenge of implementing Personal Development Planning (PDP) in Higher Education into an opportunity for improved, more personalised practice and pedagogy. The coincidence of the project’s inception with the publication of the Leitch Report (December 2006) gave added relevance and impetus to those aspects of the enquiry related to skills and work and employability, whilst the growing influence of National Teaching Fellows and the more specialised interests of ‘CETLs’ (Centres of Excellence in Teaching and Learning) in several of the partner HEIs sharpened the focus on approaches to learning and pedagogy.

The project was managed by ViTaL Partnerships, a charitable social enterprise company working at the interface of research, policy, practice and enterprise to support engaged research and enquiry based learning, in particular drawing on and helping to extend the scope of the University of Bristol’s ELLI Research Programme (see www.vitalhub.net).

Following discussions between ViTaL and the Universities of Bristol and Northumbria, a planning and discussion meeting was held at Northumbria in December 2006 at which an initial consortium of sixteen Universities expressed interest in working with Vital Partnerships using the Effective Lifelong Learning Inventory (ELLI), developed through research at the University of Bristol originally funded by the Lifelong Learning Foundation (LLF) (see www.bristol.ac.uk/education/enterprise/elli).

The consortium, eventually to involve fourteen HEIs (listed in Appendix 1) met again on March 1st 2007 and embarked on an enquiry entitled ‘Personal Development in Higher Education’. The project partners from these institutions:

- shared a widespread recognition that PDP is a learning and teaching issue and in particular that good learning programmes will by definition engage learners in PDP\(^1\).
- wished to move beyond compliance with the 2005 requirement by raising the quality of PDP opportunities being offered
- anticipated that a key part of this would be to involve academic staff and students in a closer analysis of what is meant by personal development and its delivery in an HE context

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\(^1\) It is this notion of PDP as integral to good learning and teaching that is central. PDP requires that students have the opportunity to reflect, plan and review their development and to have insight into the nature of this development in terms of academic progress, skill acquisition and personal growth. PDP then invites us to begin the learning process with the learner; their previous experiences and learning, their strengths and weaknesses, their sense of location and direction and the relevance of their learning to their present and future lives as lifelong learners, as employees, entrepreneurs, citizens and members of family groups, friendship networks and communities. The particular challenge in HE is in finding ways to deliver opportunities for personal development of this kind in the context of what are often curriculum driven, codified programmes of learning.
• shared the view that this closer analysis required looking beyond the formulaic notions of transferable skills and reflection, planning and review

• identified in the ELLI research characterisation of a robust and effective lifelong learner a useful starting point for this closer examination of the notion of personal development in HE.

One of the hypotheses to be examined and evaluated in the course of the project was the notion that there exists a development ‘gap’ in Higher Education (HE) provision because of an institutional preoccupation with student achievement, leading academic programmes to be seen primarily in the limited terms of the knowledge skills and understanding they deliver. The gap represents those aspects of learning which address personal qualities and skills, such as self regulation, self awareness, aspiration and so on. This ‘gap’ was perceived to vary in practice and in importance in relation to a number of factors including: institution, discipline, mode of delivery, student variables.

2 Research background and rationale

2.1 The Higher Education context

There are numbers of ways in which this notion of a ‘development gap’ in Higher Education have been touched upon in research:

• A significant work related literature has pointed to the importance of informal and tacit learning both in the workplace and as part of formal learning activities (e.g. Erault. M. (1994), Coffield, F. (2001), for the theoretical development and research base of these ideas, Whitehead, P. and Thompson, J. (2004) for their application in a particular workplace setting).

• Skills Needs Analyses in various employment sectors and informal reports from employers indicate a perceived shortage of and need for what might best be called qualities and characteristics as well as achievement in prospective employees (e.g. honesty, integrity, imagination, creativity, industriousness).

• Donald Schon has illuminated the notion of professional practice in complex work environments and describes professional artistry. This artistry appears to be hard to codify but we know it when we see it. Schon suggests that the road to such artistry lies in a particular (reflective) process of engagement with the activities of work. Schon describes this road, this process of development but less clear are the learner qualities required to journey successfully on that road (motivation? curiosity? resilience? capacity to change?)

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2 Developing Professional Knowledge and Competence. Falmer Press  
3 What Progress are we making with Lifelong Learning? The Evidence from Research. University of Newcastle  
4 Knowledge and the Probation Service. Wiley and Son  
The project partners wanted to investigate the ways in which this personalised and developmental interpretation of the role of Higher Education might be manifest in a range of HE contexts, whether or not it is bounded and / or certificated as part of a formal programme of learning and whether, in HE, the notion of development (as a robust or lifelong learner) is seen to be as important as achievement (for example in terms of HE validated exam or programme success).

2.2 **The Research into Learning and ‘Learning Power’**

- Research shows that a learner centred culture attends to:
  - the learner and their capacity to change and learn over time
  - teachers’ learner centred practices
  - the emotional health and well being of the individual and the organisation.
  and that all these are associated with higher levels of achievement.

- The same research also suggests that there is an ecology of learning: that the learning environment is a living system in which each person and part of the organisation matters to the whole. (Deakin Crick, R. & Mccombs, B. 2006)

- The Effective Lifelong Learning Inventory (ELLI) research first identified, then devised a way of assessing by means of self-report the essential characteristics of effective lifelong learners, so they could then be developed by learners themselves, with their teachers. (See Appendix 2: ‘Introducing ELLI & The Values & Purposes of ELLI’.) It explained these in terms of seven ‘dimensions’: changing and learning - a sense of oneself as someone who learns and changes over time; critical curiosity – an orientation to want to ‘get beneath the surface’; meaning making – making connections and seeing that learning ‘matters to me’; creativity – risk-taking, playfulness, imagination and intuition; interdependence – learning with and from others and also being able to learn alone; strategic awareness – being aware of one’s thoughts, feelings and actions as a learner and able to use that awareness to manage learning processes; resilience – the orientation to persevere in the development of one’s own learning power (Deakin Crick, R., Broadfoot, P. & Claxton, G. 2004)

- Whilst its principles and findings related explicitly to lifelong learning, the ELLI research had so far concentrated mainly on schools and other pre-HE settings and it was recognised that a validation process would be needed to ensure and, if necessary enhance the instrument’s suitability for use in the HE sector.

2.3 **Project rationale**

The project therefore adopted as its starting point the understanding that a place of learning is a living organisation, rather than a mechanistic system, in which the key idea is a focus on the learning and positive growth of every individual and their relationships, including the wider community.

From this starting point, the project set out to explore:

- the relationships between the seven ‘learning power’ dimensions and the qualities and characteristics of personal development and employability in the context of HE
- the relationships between assessed levels of learning power and formal and informal assessments of achievement in various HE contexts, including work-based learning
- the impact of factors known to foster and inhibit learning power in schools with that of similar and other factors in HE environments, including work-based learning
levels of employee engagement in and attitudes to education pre- and post-interventions designed to enhance learning power in these environments

From this rationale, five inter-related evidence pathways were clear, guiding the research and development project to attend respectively to what could be learned about:

- the learner in HE
- the range of learning environments in HE, including the work place
- the interventions of tutors and their students’ perceptions of these
- assessments of learning power in different contexts
- formal and informal assessments of achievement in HE programmes

3 Methodology

The sample of universities in this project was self-selecting and, in each case, the institutional involvement was led by teaching and learning specialists who were seeking to improve their practice through professional enquiry. The approach to the research design was therefore one of action learning, within a critical research genre. It was a process evaluation of interventions designed to strengthen students’ engagement with their own learning, which were introduced within each participating programme. Each intervention shared a starting point which was the use of the ELLI inventory, which both provided quantitative data for the project and was also an intervention designed to stimulate change, usually but not exclusively through mentored individual feedback. The data collection methods were mixed, and included (i) a quantitative survey using raw data collected by the ELLI instrument, as well as additional demographic data collected at the same time and at the time of registration (ii) a series of qualitative case studies in which focus groups and semi-structured interviews were used to gather data about the impact of the interventions. The project leaders in each institution developed their own approaches to the interventions and were enabled through collaboration and data sharing to undertake their own particular data analysis. An online learning environment ‘hub’ facility was created for these researchers to provide them with the necessary support. This report focuses on the overall project, rather than these individual, institutional analyses.

3.1 Aims and research questions

The project’s broad aims, therefore, were to:

- Explore the validity and reliability of the ELLI instrument in an HE context
- investigate the levels of learning power reported in various settings in HE
- explore the impact of selected interventions and practices on learning power
- explore the relationship between learning power and formal and informal measures of achievement
- investigate the relationship between other ‘given’ environmental factors on these outcomes

These were formulated into a set of four research questions (RQs), which informed the methodology, data collection and analysis:

- What are the relationships between the learning environments in different HE programmes and the levels of learning power reported by their students?
- How do students and tutors, employees and work supervisors respond to the concepts and strategies of learning power in these settings?
• What are the relationships between the concepts and strategies associated with learning power and the qualities needed to succeed in HE, both for traditional and non-traditional learners?
• What impact do interventions designed to promote personal development in HE settings have on levels of learning power as assessed by the ELLI instrument?

Project leaders and their colleagues in each institution were encouraged to use and interpret these questions selectively in finding an enquiry focus relevant and appropriate to their own settings. (See examples of local enquiry summaries in Appendix 3)

3.2 Validation and trial of the Adult Version of ELLI inventory

The ELLI research team at the Graduate School of Education at the University of Bristol undertook the following steps of a validation process:
1. amendment of particular items to reflect the HEI/adult context where appropriate, in consultation with HEI partners (steering group) and adult trainers.
2. creation and integration of five new demographic questions with the adult (HE version) of the questionnaire
3. creation of an adult version of the ELLI questionnaire within ELOISE (The ELLI Online Instrument Second Edition – see www.eloise-online.com)
4. testing of the internal reliability of the seven scales in the new data set generated through this project

3.3 Obtaining quantitative baseline data
ELLII Learning Power surveys were introduced to a wide ranging cohort of over 1900 identified students across the thirteen participating institutions starting in the Autumn of 2007, using the ELOISE online adult (HE) version of the questionnaire. Their tutors and support staff had received either intensive two-day ELLI training from ViTaL Partnerships during the period April – September 2007 or had been thoroughly briefed by those from their institution who had been trained. The training included guidance in the preparation of students for undertaking the ELLI survey, to maximise the reliability and accuracy of the ELLI data generated. The online survey produced both the individual feedback in the form of spider diagrams and the raw data for quantitative analysis which was saved on the server, matched with other data, and exported into SPSS software.

3.4 Interventions
The two-day training included opportunities to devise and discuss prospective intervention strategies, intended to be tailored to the needs and enquiry foci of each context and therefore expected to vary considerably across and within institutions.

The administration of the online questionnaire itself constituted the minimum intervention, since the resulting profile introduces learners to the seven learning power dimensions, with brief available explanations, inviting reflection on personal relative strengths in them, without any further intervention from tutors.

In practice, most groups were given more systematic follow-up than this, ranging from making suggested strategies available for building on strengths in the seven dimensions (the ‘ELLII Tips’ circulated in the training and published as ‘flash cards’ in Deakin Crick...
to personal, one-to-one mentoring using the profile as a starting point for turning self-diagnosis into strategy, which an earlier school based enquiry had found to be the single most effective intervention reported by students and staff. The nature and extent of the interventions varied considerably according to context, as expected. In at least one context, the interventions were not ELLI-inspired but context driven, such as using work placements in a business course as the intervention and the ELLI surveys to measure changes in the self-report of students’ learning power pre- and post-placement. In most contexts, however, the concepts and language of the seven dimensions were a significant element in the reflection and discourse that characterised the intervention stage. As an example, in one context, ELLI was used as part of a Nursing Degree course, in a module on ‘Mentoring’, providing a framework and language for reflection on self as learner and personal development in programmed, regular mentoring conversations over a period of time (see Discussion of Findings and Appendix 5 for more details).

3.5 Qualitative and narrative data

Qualitative feedback, to meet the necessary timeframe for this report, could only be collected from partners whose enquiries were far enough advanced and who were able to offer and make the necessary arrangements for meetings, focus groups or semi-structured interviews. The evidence was therefore from a sub-sample of projects in the Universities of Bedfordshire, East Berkshire College of Higher Education (an additional visiting partner), Gloucestershire, Manchester, the North East Wales Institute of Higher Education (NEWI), Northumbria and Sunderland.

The evidence gathering meetings and visits were conducted as follows:

- Two visits to the University of Northumbria, 1st, 2nd, 8th and 9th May 2008
- An interim ‘dissemination of progress’ conference for partners hosted at the Putteridge Bury Campus of the University of Bedfordshire on 13th May 2008
- A further visit to the University of Northumbria on 1st July 2008, to meet with tutors of that and the University of Sunderland
- A visit to the University of Gloucestershire on 17th July 2008
- A visit to the Business School, University of Sunderland on 23rd July 2008.

(See Schedule in Appendix 4 and transcripts in Appendix 5)

Two sets of questions were used to semi-structure the focus groups and interviews with students and tutors respectively (see tables 2 & 3 below and Appendix 6):

<table>
<thead>
<tr>
<th>Student interview schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tell me what you remember about using the ‘ELLI’ learning profile?</td>
</tr>
<tr>
<td>2. Have the ideas made any difference to the way you see yourself and your learning? If so how?</td>
</tr>
<tr>
<td>3. Have you changed as a learner over this academic year?</td>
</tr>
<tr>
<td>4. If so, what experiences and influences have contributed to this?</td>
</tr>
<tr>
<td>5. What matters most to you about your learning at University?</td>
</tr>
<tr>
<td>6. What do you remember best about working with ELLI?</td>
</tr>
</tbody>
</table>

*Table 1: qualitative data questions for students*
3.6 Quantitative data
All quantitative data was:
- generated by administering the ELLI-online questionnaire:
  - for the first time (pre-intervention) to a total cohort of 1879 students registered at participating HEIs between October 2007 and March 2008
  - and for a second time (post-intervention) to 406 matched students between February and July 2008
- analysed and reported on by members of the ELLI Research Team using SPSS analytical software at the University of Bristol.

3.7 Selection of data for analysis: summary of evidence base and criteria

3.7.1 Qualitative and narrative data:
- Students involved in focus groups or semi-structured interviews: 15, representing first degree courses in Computer Education and Information Studies (CEIS) (5), Advice, Guidance & Counselling (AG&C) (3), Corporate Management (2) and an MSc in Human Resource Management (HRM) (5)
- Academic Tutors involved in focus groups or semi-structured interviews: 19, representing CEIS (3), Built Environment (1) Business Management (1), AG&C (1), Psychology (1), Nursing Qualification for International Students (1), English Language for International Students (1), PG Cert teaching qualification for HE (1),
MSc in HRM (4) Social Work, strategic approaches to Learning & Teaching and Leisure Professionalism (5)

- Non-academic staff involved in focus groups or semi-structured interviews: 5, representing Senior Administrators (2); Senior Librarians (2) and Senior Manager in an HR Department.
- Project partners represented at the dissemination meeting at Bedfordshire: 9, representing seven HEIs and Computing, Education, Journalism, Psychology, Foundation Degree in Early Childhood Studies, PG Cert. and an access programme for pre-university students.

3.7.2 Quantitative data
Analysis of the pre-intervention ELLI Profile data for the entire cohort of 1879 students, including:
- Reliabilities of scales for each of the seven dimensions
- Descriptive statistics for institution, teaching (or subject) group, discipline, academic level, gender, age, mode of study, ethnicity and prior educational attainment
- Comparison of means through analyses of variance (ANOVAs) for institutions, modes of study, age, academic levels and teaching (or subject) group in relation to the seven dimensions

Analysis of the pre- and post intervention ELLI Profile data for the matched cohort of 406 students, including:
  i. Paired T-tests (indicating degrees of change from pre- to post-intervention) in all seven dimensions for
    o The whole cohort (N=406)
    o Northumbria (N=130)
    o Sunderland (N= 118)
    o Manchester (N=118)

3.8 Selection criteria for evidence in support of findings
The findings below were arrived at by collating the qualitative, quantitative and narrative transcripts collected through this process, and using a thematic analysis to identify emerging themes in relation to each research question. These themes were then synthesised and triangulated with other data. The following criteria were used to select data at the point of collection and analysis:
For qualitative evidence:
  o Being freely offered, orally or in writing, in response to open questions, without leading or prompting
  o Either being reported as a personal example of a general observation agreed with by a clear (stated) majority of other respondents or being supported, in its representation of the finding in question, by at least two other independent written responses
  o Relevance to the research questions
  o Where relevant, being supported by quantitative data
For quantitative data (from online surveys of both Stages):
  o being statistically significant or (where stated) at a level approaching statistical significance
  o where relevant, being supported by qualitative and narrative evidence that met the above criteria.
4 Findings and evidence

4.1 (RQ1) What are the relationships between the learning environments in different HE programmes and the levels of learning power of their students?

4.1.1 Quantitative Data and findings in relation to RQ1

4.1.1.1 Validity and reliability of the quantitative data generated by the adult/HE version of ELOISE

An alpha reliability was computed for each of the seven scales. Four of the seven dimension scales were reliable at .7 or better and the other three approached this level of reliability (see table 3 below):

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changing &amp; Learning</td>
<td>.67</td>
</tr>
<tr>
<td>Critical Curiosity</td>
<td>.69</td>
</tr>
<tr>
<td>Meaning Making</td>
<td>.63</td>
</tr>
<tr>
<td>Creativity</td>
<td>.78</td>
</tr>
<tr>
<td>Strategic Awareness</td>
<td>.80</td>
</tr>
<tr>
<td>Learning Relationships</td>
<td>.77</td>
</tr>
<tr>
<td>Fragility &amp; Dependence</td>
<td>.84</td>
</tr>
</tbody>
</table>

*Table 3: Cronbach’s Alpha reliabilities of the Seven Scales*

4.1.1.2 Mean scores of the entire student population in each dimension (pre-intervention)

The mean scores of the entire cohort of students (N=1879), pre-intervention, in each of the seven dimensions ranged from Meaning Making and Changing & Learning highest, in the mid-seventies, to Creativity lowest, in the mid-fifties, consistent with previous studies suggesting that Creativity declines most steeply as students progress through school (Deakin Crick et al 2004). The seven mean scores are shown in Table 4, as follows:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>% Mean scores (N=1879)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changing &amp; Learning</td>
<td>73.85</td>
</tr>
<tr>
<td>Critical Curiosity</td>
<td>61.78</td>
</tr>
<tr>
<td>Meaning Making</td>
<td>75.41</td>
</tr>
<tr>
<td>Creativity</td>
<td>56.77</td>
</tr>
<tr>
<td>Strategic Awareness</td>
<td>60.24</td>
</tr>
<tr>
<td>Learning Relationships</td>
<td>59.91</td>
</tr>
<tr>
<td>Fragility &amp; Dependence</td>
<td>41.46</td>
</tr>
<tr>
<td>(i.e. Resilience =)</td>
<td>58.53</td>
</tr>
</tbody>
</table>

*Table 4: Mean scores of the whole cohort in each dimension, pre-intervention*

4.1.1.3 Descriptive characteristics of the entire sample

The following table shows the number of students in each institution:
Within the sample, and spread unevenly across the institutions, there were 92 teaching groups, with different tutors and subjects. These were too numerous to characterise in detail and the sample sizes in each were too small to yield reportable results. The details of these groups can be seen in Appendix 7. In order to explore possible relationships between different disciplines, and therefore implicit ways of knowing and learning, these subjects were clustered into groups by discipline. Table 6 shows the numbers of students in each discipline and Appendix 7 shows how each subject was matched to a discipline.

<table>
<thead>
<tr>
<th>Meta-discipline</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>132</td>
<td>7.0</td>
</tr>
<tr>
<td>Business</td>
<td>323</td>
<td>17.2</td>
</tr>
<tr>
<td>Education</td>
<td>325</td>
<td>17.3</td>
</tr>
<tr>
<td>Health</td>
<td>87</td>
<td>4.6</td>
</tr>
<tr>
<td>Interdisciplinary</td>
<td>213</td>
<td>11.3</td>
</tr>
<tr>
<td>Sciences</td>
<td>290</td>
<td>15.4</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>271</td>
<td>14.4</td>
</tr>
<tr>
<td>Staff</td>
<td>118</td>
<td>6.3</td>
</tr>
<tr>
<td>Work based learning</td>
<td>120</td>
<td>6.4</td>
</tr>
</tbody>
</table>

Table 6: Numbers of students in each discipline

The data collected also enabled an examination of the relationship between reported learning power and the mode of study. The following table shows the number of students in five different modes of study:

<table>
<thead>
<tr>
<th>Mode of study</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>part-time</td>
<td>213</td>
<td>11.3</td>
</tr>
<tr>
<td>full-time</td>
<td>1516</td>
<td>80.7</td>
</tr>
<tr>
<td>work based learning</td>
<td>58</td>
<td>3.1</td>
</tr>
<tr>
<td>distance learning</td>
<td>44</td>
<td>2.3</td>
</tr>
<tr>
<td>other</td>
<td>48</td>
<td>2.6</td>
</tr>
<tr>
<td>Total</td>
<td>1879</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 7: Numbers of students in each mode of study
Further descriptions of the sample in relation to academic level of study, age, gender, ethnicity and prior attainment can also be found in Appendix 7.

### 4.1.1.4 Relationships between mean scores in each dimension (pre-intervention) and institutions

In order to explore the relationship between learning power variables and each institution an Analysis of Variance was computed. This demonstrated that there were significant differences, at the 0.05 level of significant or greater, between the mean scores in each dimension and between all institutions.

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>changing and learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>24050.15</td>
<td>11</td>
<td>2186.377</td>
<td>6.69</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>609323.096</td>
<td>1867</td>
<td>326.365</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>633373.248</td>
<td>1878</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>critical curiosity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>21195.851</td>
<td>11</td>
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Table 8: ANOVA: analysis of variances of means between twelve institutions in each of the seven dimensions

This demonstrates that there is a relationship between the institution a student belongs to and the levels of learning power they report, although judgements about causality cannot be made. A further investigation of the post hoc multiple comparisons showed that these differences were spread evenly across the institutions and the dimensions.

The first set of figures below represent graphically the differences in the mean scores in each dimension **between the following institutions:** Bedfordshire (N=149); Durham (N=18); East Berkshire (N=30); Gloucestershire (N=159); Liverpool (N=56); Manchester (N=254); NEWI (N=94); Northumbria (N=503); Open University (N=60); Sunderland (N=310); Surrey (N=20); Worcester (N=224):
Figure 1: Variances of means in Changing & Learning between the institutions

Figure 2: Variances of means in Critical Curiosity between the institutions

Figure 3: Variances of means in Meaning Making between the institutions

Figure 4: Variances of means in Creativity between the institutions

Figure 5: Variances of means in Strategic Awareness between the institutions
These plots show a clear pattern of students in certain institutions tending to report higher levels of learning power in most dimensions, with the students in some other institutions generally reporting themselves to be lower in most dimensions. This pattern suggests that there are institutional differences, which might include the nature of the student population recruited, that may influence levels of learning power. The data also demonstrate that these relationships are complex and involve all the learning power variables we examined: meta-disciplines, modes of study etc. For example, it is interesting to note that the Open University students, of whom the great majority are mature, part-time or distance learners, report themselves as significantly lower in Fragility and Dependence, i.e. higher in Resilience (see Figure 7, above).

4.1.1.5 Relationships between mean scores in each dimension (pre-intervention) and other variables

In order to explore the relationships between learning power variables and other variables in the study, further Analyses of Variance were computed using meta-disciplines, modes of study and age-ranges as the independent variables. These computations demonstrated that the differences were significant in all seven dimensions in relation to all of these variables. Details of these computations, including the post hoc multiple comparisons can be seen in Appendix 7.

The second set of figures below represents graphically the variances of mean scores in each dimension between students studying in the different meta-disciplines, or broad subject areas: the Arts (N= 132); Business (322); Education (325); Health (87); Interdisciplinary Studies (213); Sciences (290); Social Sciences 271); Staff Professional Learning (117); Work-based Learning (120).
Figure 9: Variances of means in Critical Curiosity between the meta-disciplines

Figure 10: Variances of means in Meaning Making between the meta-disciplines

Figure 11: Variances of means in Creativity between the meta-disciplines

Figure 12: Variances of means in Strategic Awareness between the meta-disciplines

Figure 13: Variances of means in Learning Relationships between the meta-disciplines
Interesting findings emerge from the differences in these plots, suggesting, for example, that students in Health-related disciplines report themselves relatively high in most dimensions, including Changing & Learning, Critical Curiosity, Meaning Making, Creativity and Strategic Awareness, but their scores are also high in Fragility and Dependence (i.e. lower in Resilience) and relatively low in Learning Relationships. Conversely, both Science and Social Science students report themselves relatively low in most dimensions and high in Fragility and Dependence, suggesting that learning power in these two areas may be weaker in general. The Staff Group reports itself as relatively high in almost every dimension, low in Fragility & Dependence (so high in Resilience), except in Learning Relationships, where it is around the middle of the range. The groups reporting themselves as highest in Learning Relationships are Business, Inter-disciplinary studies and, significantly higher than the rest, the work-based learners.

The third set of figures below represents graphically the variances of mean scores in each dimension between students employing different modes of study: part-time (N=213); full-time (1516); work-based learning (again) (58); distance learning (44) and ‘other’ (e.g. staff groups) (48).
Figure 17: Variances of means in Meaning Making between the modes of study

Figure 18: Variances of means in Creativity between the modes of study

Figure 19: Variances of means in Strategic Awareness between the modes of study

Figure 20: Variances of means in Learning Relationships between the modes of study

Figure 21: Variances of means in Fragility & Dependence between the modes of study
The pattern of these data indicates that the part-time, ‘other’ (e.g. staff) groups and particularly the work-based learners report themselves to be higher in most dimensions and lower in Fragility and Dependence than the other groups, while the full-time students, by far the largest sub-sample, including the large majority of students who had recently made the transition from school, report themselves as lower in most dimensions of learning power and correspondingly higher in Fragility and Dependence than their less traditional fellow university students.

The fourth set of figures below represents graphically the variances of mean scores in each dimension between students in different age-ranges: 18-21 yrs (N=1006); 22-25 yrs (313); 26-30 yrs (175); 31-40 yrs (193) ; 41-50 yrs (130); 51-60 yrs (48); 61-70 yrs (10) and 71-80 yrs (1).

![Figure 22: Variances of means in Changing & Learning between the age ranges](image)

![Figure 23: Variances of means in Critical Curiosity between the age ranges](image)

![Figure 24: Variances of means in Meaning Making between the age ranges](image)

![Figure 25: Variances of means in Creativity between the age ranges](image)
This fourth set of plots indicate a fairly consistent pattern in which learners reports of their learning power increase in almost all the (positive) dimensions (i.e. reducing in Fragility & Dependence) from the lowest set in the youngest age range represented, the traditional, mostly full-time students recently out of school. The exception is Learning Relationships, which shows an uneven but slightly reducing overall trend, from a high point in the 22-25 age range, declining more sharply after the 41-50 age-range.

What is clear from all these Analyses of Variance of Means is that learning power variables are related to other factors within the learning environment (i.e. institution, discipline and mode of study) as well as to individual factors, such as age and stage. The data warrant hierarchical modelling to explore this further, but that is beyond the scope of this study.

4.1.2 Qualitative Data and findings in relation to RQ1
(What are the relationships between the learning environments in different HE programmes and the levels of learning power of their students?)

4.1.2.1 Finding:
Both staff and students found the concepts associated with learning power, and opportunities to develop it, to be relevant to their interests and purposes in a very wide range of different HE environments.
Evidence included:

I have been working specifically with four groups of staff:

i. 45 new academic employees, as a tutor on their PG Cert course
ii. a group of administrative staff
iii. academic staff in two schools
iv. library staff

...administrators in the School of Arts and Social Sciences asked if they could use ELLI for two reasons: first, they thought it would be helpful to their own development as individuals and as a team; secondly, because Arts & Social Sciences hope to introduce ELLI as a major project with over 3,000 students. They wanted to know how administrators might be able to support this...

I found myself talking to seven managers and substantial staff groups about ELLI

We asked fundamental questions about how to engage with students in a library...

The Research Questions here were:

- ‘How does ELLI work in responding to ‘off-the-street’ requests rather than in a teaching/learning relationship?’
- Are we (librarians) relevant to what emerges from conversations about personal development?
- How can we be seen as more than ‘lenders of books’?

We set a maximum of fifty clients and (used ELLI to work on) how we engage students in conversations ... helping them to address issues like ‘how can I become more resilient?’

(A PG Cert and Health & Community Tutor)

ELLI illuminates qualities that don’t come up in other tools: curiosity, tenacity etc. I was intrigued to see whether my own profile differed from my expectations (A Senior Administrator)

I saw the ELLI training advertised and thought ‘That could be useful for the Library!’ Being nosey! Flying the flag for the Library! …we could have a project of our own, supporting students directly. (A Senior Librarian)

We are part of an International Coalition for ePortfolio Research ... we were trying to disseminate the idea of using ePortfolios ... we thought this might give something tangible, demonstrable that something has happened (A Computer Studies Tutor)

I am still very interested… I am trying to become a better manager. I have to help staff become better learners and understand the need to model that. (Another Senior Administrator)

We have truly embedded it, rather than stuck it on. It’s a perfectly natural development for what we’ve been trying to do. (Another Computer Studies Tutor)
I tied it into Guidance – it was really to do with convenience… (I thought) it would be an interesting and informative thing to bring (ELLI profiles) to the interviews. This was Guidance, over and above teaching. (A Business Management Tutor)

The Admin Staff had a goal of ‘Improving the Student Experience’ and this was a (possible) sub-set of that.

It’s helped me to support staff in solving professional problems, even though not (necessarily) directly related to ELLI: e.g. attrition on a midwifery course. ELLI is an adaptable framework for developing others. … it has been a source of energy and development. (A Health & Community Tutor)

We were interested in students’ ability to assess themselves and their learning and to discuss ways they might put strategies in place to develop aspects of the profile. We had already bought into the Seven Dimensions… developing learning power and its implications for Advice, Guidance & Counselling (AG&C).

Students are studying AG&C. ‘Here is a profile in relation to your learning power, which can well be used to support your future development as a lifelong learner.’ I tried to give it a real push. ‘What has ELLI got to do with AG&C?’ Everything! We built it into modules.

That ‘Contribution to the Module’ element (in the assessment framework) was mainly inspired by the ELLI work, though it extends beyond ELLI. It represents 20% of the assessment. (An AG&C Tutor)

I thought it was good. When we took another module on ‘Consultancy’ we saw the relevance. (A Business Information Technology Student)

We are using ELLI with 220 pre-university sixth form students on the ‘Manchester Access Programme’ (MAP) aimed at widening participation, improving student recruitment and developing skills necessary for success at the University… Particularly non-traditional learners - from disadvantaged backgrounds… The ELLI concepts gave them a language for target setting which they had failed to find before (a MAP Tutor)

We wanted to know whether Problem-based Learning (PBL) is effective: using ELLI as an evaluation tool…Awareness of learning power is a potentially confounding variable, so used ELLI to measure, rather than develop anything …I mapped the Seven Dimensions against the aims of Problem Based learning and it was a very close fit. …valuable to use diagnostically for the group – e.g. if Psychology students can be shown to lack Creativity. (A Psychology Tutor)

I had a hypothesis that I wanted to test: that we are setting these international nursing students up to fail! …My questions are really about progression – to level 3 – and cultural transition. I asked myself how ELLI can help with this. After seeing my own profile I asked how can I identify the (strategies needed to develop) Creativity and Resilience. My hypothesis was that this programme, as they were so unprepared for Level 3 study, would make their learning profiles worse, not better (A Tutor of International Nursing Students)
One purpose we had for ELLI was that were trying to get engagement from ancillary workers. We tapped into a seam of under-valued staff… The relevance of the seven dimensions was clear: especially in relation to questions of feasibility. People with Creativity and Critical Curiosity are always interested in new opportunities, such as apprentice schemes. Learning Relationships is good for networking skills… Meaning Making ties in nicely with the Training & Development programme…

ELLI is like a template for the strategic review of staff development strategies. The profiles can be used to validate what people have already achieved and their direction ahead. (Senior Manager in the HR Dept of an HEI)

Our students are doing twelve-week intensive pre-sessional courses, either at pre-undergraduate or pre-masters level… Within this ‘academic’ development, we can attend to learning power … We used ELLI with fourteen pre-masters students… (Head of an English Language Centre in an HEI)

I used ELLI in the context of re-validation of a Social Work degree, in what has been a Study Skills module, involving 20 students… (A Social Work Degree Tutor)

The programme had changed, from Peer Learning Support Groups to PALS: Peer Action Learning Sets… The PALS were used to develop self-learning, cross-cultural awareness and student (peer) support… We wanted to know whether this ‘scientific’ framework (assessment of learning power) supported our subjective impressions of (students’) progress, especially with the second profile. (An MSc Tutor in Human Resource Management)

…students on Foundation Degrees with educational content, e.g. Early Childhood Studies, Primary Education, working with children in education or social care settings… exploring relevance of ELLI to FE. (My institution) is interested in raising aspirations towards HE: using ELLI as a way to bridge that gap (A Foundation Degree Tutor)

4.1.2.2 Finding:
Some staff and students found ELLI particularly relevant to the work environment.

Evidence included:
I had just dropped into a new job … I had recently done the Belbin Team Role survey again and found my profile had changed dramatically. I was curious to see how these learning power concepts would react: whether this change in me would be reflected in the ELLI survey. (The link with teaching and learning is that) it is about facilitation, rather than control. (A senior administrator)

At least four members of staff did the ELLI Questionnaire wearing two ‘hats’: firstly, as supporters of students and secondly, being learners in our own right. (A Senior Librarian)
In the 2nd and 3rd years, we do full time business placements. ELLI relates to the workplace well... (It’s) easier to act on weaknesses in the workplace than the academic environment. (A Corporate Management Student)

I’ve used it with 2nd Year Foundation Degree students in relation to a work experience module... how they related their studies to work experience and vice versa. In terms of personal development, (it is important to) know where they’re heading and to fit work experience into that framework. I imagine the ELLI Dimensions would map on to this... (the requirements for RICS qualification). (A Built Environment Tutor)

Learning Relationships is critical in the workplace. Students hate doing group work but it’s the reality in the workplace. You’ve got to have a way of developing it. (A Business Management Tutor)

As far as ELLI is concerned, four students from a work background (one Nigerian, one Chinese, two German) reported that their competencies improved significantly as a result of doing the ELLI profile (A Business Mgmt Tutor)

It relates well to topics like work-related learning, PDP and employability. (A Health & Community Tutor)

4.1.2.3 Finding:
Unsurprisingly in view of the project’s initial aims, some academic staff involved found the ELLI concepts and strategies particularly helpful in the development of Personal Development Planning for their students.

Evidence included:
It fitted in nicely with PDP concepts relating to reflection, self-efficacy and self-evaluation... we were trying to... embed PDPs into the curriculum... (A Computer Studies Tutor)

We’re now doing a seminar on ‘Learning’ to heighten awareness of the need for reflection, using the ELLI profiles as a starting point for that. ... (Another Computer Studies Tutor)

There was also the question, ‘What do we mean by it?’ (personal development). ELLI was a huge help. All we had from the HEFCE directive on PDP was: a) about transferable skills and b) as opposed to simply ‘learning about learning’, it was important both to develop it and record that development. I hadn’t started to unpick these ideas about what ‘development’ was. ELLI gave a helpful twist.

I am the key person in the Institution regarding approaches to PDP. Currently, the only approach (I am promoting) is around ELLI. ... ELLI is not the whole agenda, but is an important development and research component (of it). Presently, the way we’re trying to improve our understanding and practice in PDP is through ELLI. (A Health & Community Tutor)
…the idea of linking ELLI with PDP, Pebblepad and the aim to support personal development, growth and awareness. (A Social Work Degree Tutor)

4.1.2.4 Finding:
Almost all of the staff interviewed saw a place for extending and/or developing their use of ELLI in their plans and strategies for the future

Evidence included:

We’ve incorporated ELLI into two modules and are planning to run it again at the end of Year 2… (A Computer Studies Tutor)

We are starting a new project including ELLI. Some will go on placement, some won’t…The research question will be, ‘Is there a difference in the ELLI Profile of those who have gained a placement?’ (Another Computer Studies Tutor)

There is a group of students there already who can engage with this (in the Business School). I think it would be great for them… It’s an idea for the future. (Another Senior Librarian)

I would use it in a similar way again…I think the issue is about where we go from here with ELLI. We have piloted it across two programmes in the school. We need to think about using it on a wider basis, e.g. 1) on entry and 2) at a significantly later date. If we found there were significant areas of weakness, we’d want to adopt strategies to address them. (A Business Management Tutor)

A thought for the future: could ELLI be used as part of an awareness raising/training vehicle for appraisers?

(My strategic plans include) using ELLI to continue to foster learner-centred approaches to learning & teaching and attending to the whole person rather than just educational attainment. This is not out of some kind of missionary zeal, but based on a belief that it is a) right and b) what universities should be doing as part of their contribution to society.

I went to see the Associate Deans for Learning & Teaching and Student Affairs, suggesting to the latter, who became enthused and involved, that this was an area that needed addressing and here was a way to do it. It was her idea, and strategic decision, to widen it to the whole school next year. The Research Question here will be: ‘To what extent can ELLI work across subject boundaries to create a useful common language for student and learning development…?’ (A Health & Community Tutor)

We want to adapt these materials for HE, using students to make input into that (An AG&C Tutor)

I am planning to introduce ELLI into a mini-project that we’ll use to track Masters students: a kind of market evaluation… (Head of English Language Centre)
I am taking on a Personal Development module in an MBA Foundation Degree and may try to incorporate ELLI, in relation to work-based learning. (A Business Tutor)

the single thing that’s come out of it is the ability to profile the cohort. Weak Creativity confirms my intuitive judgement. We’re going to create a module to develop it … If confidence in the instrument is high, we’ll go on using it… (A Psychology Tutor)

In this next academic year (2008-9) there will be a review of PDP policy, including asking ‘How does ELLI fit within the tutorial system?’ (A Senior Manager for Teaching & Learning in an HEI)

…there could be assignments evaluating the impact of ELLI on PDP (A Leisure Management Tutor)

We need to clarify assessments, the criteria for reflections, sort out the dissertation and make more use of the ELLI profile: maximise the gap between first and second profile, feed in more information on the seven dimensions, especially tips (strategies) and put more emphasis on ELLI and personal learning. (A Business Mgmt Tutor)

We need to beef up support for interpreting first profiles. It seems to work; now we can enhance it, give it a higher profile. The main aim is to get them to reflect and analyse, rather than just describe. (Another Business Mgmt Tutor)

4.1.2.5 Finding:
Some staff reported that a variety of organisational obstacles, including insufficient time or prioritisation and some specific difficulties with ELOISE, frustrated or limited their efforts to maximise the impact of ELLI

Evidence included:

My only reservation is that one hour was too short to do justice to the ideas (A Senior Administrator)

(The problem was that I wasn’t the tutor.) Someone else was the tutor. I gave them a quick debrief and had to rely on email. Only twelve did the questionnaire… We have offered one-to-one conversations. Three said they were interested, two came and were asked to email for an appointment. One has, but then cancelled. (A Computer Studies – Placements Tutor)

…the Work Experience module is part of a group of six courses with work experience in all of them. There is a common brief for all six and so I was not allowed to write ELLI into the brief. … if it is not formally assessed it is difficult to engage students in it… Because we couldn’t change the brief, I hit the buffers … For anything like this to work it has to be assessed as part of the accreditation framework… You hit problems trying to do something different for one group of students in a common assessment brief. (A Built Environment Tutor)
...difficulties and some resistance were encountered, instructions not always followed... The worst thing that’s happened is that (some) people have said they’d do something about it and haven’t. (A Health & Community Tutor)

We had difficulty with log-ins – I exchanged about 50 emails about it – which has affected it. They would try to log in, some failed, some were taken to their previous profiles. We had to explain ‘delete cookies’ etc and get help from the IT department. It has been a frustration for the students, leading them to think ‘How can I get it done?’ rather than ‘What can I learn from this?’ For some, it’s a turn-off!

There are always going to be issues around timing. Ideally, I’d like to have had the resources to do group work or interviews with all (the students) but we couldn’t. (An AG&C Tutor)

Because the questionnaire was done in Induction Week with lots of others, it was seen as ‘yet another survey!’ and not very successful... I wanted to follow on with 2nd survey but was prevented by maternity leave and other tutors were busy with exams (Researcher and Project Manager for an HEI)

There were some problems: from colloquial, culturally specific use of informal English in the questionnaire. We could easily adapt a version for international students (Head of English Language Centre)

What we found was an issue about why Learning Relationships came out worse after PBL. The quantitative data conflicts with the Nominal Group Feedback findings and raises a question for me about the questionnaire items relating to Learning Relationships. (A Psychology Tutor)

4.2 Qualitative Data and findings in relation to RQ2 (How do students and tutors, employees and work supervisors respond to the concepts and strategies of learning power in these settings?)

4.2.1 Finding: The face validity of the ELLI survey and profile appears strong for this population: many participants commented on the ease of the process, the positive, ‘intriguing’ or visual impact of the profile and/or the usefulness of the concepts

Evidence included:
I was intrigued to see whether my own profile differed from my expectations. (A Senior Administrator)

My profile confirmed what I knew about myself and how I learned. (A Senior Librarian)

They understood the concepts quite readily (A Computer Studies Tutor)
I got a high score on Changing & Learning. I think that reflects me: I’ve always known what needs to be learned. The diagram (ELLI profile) is what I remember best! (A Corporate Management Student)

(What I remember best about ELLI is…) The questionnaire! I was keen to see how this one would compare. It relies on effective self-perception. I was keen to see how well I did. …(my profile) confirmed what I’d have admitted before… (Another Corporate Management Student)

The new cohort seemed very keen. They wanted to know what their diagrams meant. (A Computer Studies – Placements Tutor)

The visual impact of ELLI can be underestimated because it shows us in relation to all the Seven Dimensions and it provokes questions about ‘What does that one mean again?’

It’s easy to use. Students respond well to completing it online. (The single most important element is…) the visual impact of the profile and the ease of use (Another Computer Studies Tutor)

It was interesting to find out (how we were on the profile). When I looked at it, it was ‘spot-on’ really. (A Computer Studies Student)

I found the materials quite fascinating. I thought, ‘This makes sense! It’s logical. (A Business Studies Tutor)

I quite enjoyed doing it. Sometimes I noticed the same questions were asked in different ways. I found I thought about it afterwards. I was intrigued (by) how I could change things. (An AC&G Student)

The phrasing of the questions made you feel good; the attributes were nice: e.g. ‘Is there someone in my life…’ I like seeing the visual impact of the graph (ELLI profile) itself but also the language and concepts in the questionnaire. I finished and it made me feel quite good! (Another AC&G Student)

(I thought) ‘That sounds like me!’ (A third AC&G Student)

Seeing the change! (…is what I remember best about it). Keenness to do it to see what the results were! (A mature AC&G Student)

I like the simplicity of the profile, but we must be careful about the potential for misreading. I think (the most important single element was) actually the students receiving the first profile: the impact was significant, for good, mostly..(An AC&G Tutor)

It shows you what you are, the profile. You ask ‘What does that… and that mean?’… then think, ‘That’s true!’ That’s interesting. On the whole, I agreed with it. (Another Computer Studies Student)
It was an eye-opener. In general, the ideas stayed in my mind when doing other modules. (A third Computer Studies Student)

The Ambassadors really enjoyed it. (A MAP Tutor)

It appears to have good face validity. (A Health & Community Tutor)

Students liked the fact that ELLI had come out of schools-based research: gave it strong face validity… They liked the ELLI story (‘A Learning Journey’ - in the training materials) as it gave them a way they could use the ideas with children. (A Foundation Degree Tutor)

Anything that helps you understand yourself (is worth having) from the HR perspective! The face validity was high. (Senior Manager HR Dept)

With the post-profile, there was more time for discussion. Again, they ‘fell on it’ as if this was the ultimate truth. (A Psychology Tutor)

The ideas have made a lot of difference. The profile was very interesting as far as I am concerned. … The result from my first time was very accurate. (An MSc Student in HR Mgmt)

4.2.2 Finding:
A significant feature of a number of responses was a reported enhancement of ‘consciousness’, awareness and/or understanding of self and/or others as learners and their educational environment

Evidence included:

ELLI has helped me to see that I have an expanding learning capacity and given me a stronger sense of my own worth. (A Senior Administrator)

as a by-product, by doing our own profiles, it helped us to improve our own learning and our understanding of students’ learning. (A Senior Librarian)

The single most important element is the consciousness-raising element: people can start to think about learning, the vocabulary and ideas behind it. (A Computer Studies Tutor)

It’s made me more aware… I don’t think I’ve changed at all, even with ELLI, although I would acknowledge that it has enhanced my awareness of myself as a learner (A Corporate Management Student)

ELLI makes you aware that there are different ways to learn and to improve your learning. I was never aware of the seven aspects (dimensions), just thinking of learning as an end-product. ELLI has highlighted the areas I can get better at. (Another Corporate Management Student)

I think the exercise was very useful for (my student). … He saw our poster on ‘Learning to Learn’. … towards the end of the interview… the ‘light bulb’ went on!
His areas for development were Strategic Awareness and Resilience. I talked to him about time management and so on; told him how transferable his skills are, gave him copies of the ‘ELLI Tips’ and a reference for the book (‘Learning Power in Practice...’). He seemed pretty pleased! (Another Senior Librarian)

It’s a personal picture of them as opposed to something related to a subject area or particular piece of work. (A Computer Studies Tutor)

You don’t really know your strengths and weaknesses until you see it (ELLI profile) in front of you... It helps you to weigh up your strengths and weaknesses and make judgements about yourself based on evidence. Reflecting on my ‘self’ in this way is not something I would have done. (A Computer Studies Student)

Doing ELLI was about awareness and (having) a language (for this). (A Health & Community Tutor)

I needed to look really carefully at my profile and the cards (in preparation for being a mentor) and it helped me in my own right... Mentoring makes you take responsibility – say ‘This is where I am in my learning.’ (An AG&C Student)

It’s been an additional tool to highlight student awareness of their learning and need for development. It is used as a development tool. … For those who took advice, it led to a most constructive set of dialogues about ‘what is learning and what does it mean for me?’ (An AG&C Tutor)

We found out more about them, such as being ‘spoon-fed’ before; they don’t have a clue about how to do research; they don’t like to ask; they wouldn’t know how to do a search... Resilience is very low in these international students. ... Childhood stories (came out) that had affected their learning power (Two Computer Studies Tutors)

There seemed to be a pattern of strength in Changing & Learning (in the cohort) – perhaps reflecting the age/experience profile: many of them mature students, into their thirties with children of their own, conscious of their own ‘learning journey’ – second time around (in formal learning) (A Foundation Degree Tutor)

The main thing is, my self-awareness has improved considerably. (An MSc Student in HR Mgmt)

The main benefit is not about being a ‘good learner’ or a ‘bad learner’ but for the first time we think about ourselves. We may have a different opinion from the profile but we reflect and improve. (Another MSc Student in HR Mgmt)

Students have become so much more aware of what we’re trying to do, through ELLI and PALS (Peer Action Learning Sets) (A Business Mgmt Tutor)

4.2.3 Finding:
Some participants reported significant personal change, associated with the use of the ELLI profiling tool, in terms of confidence, focus, personal/professional development and approach to learning
Evidence included:

The ELLI ideas have changed how I react to a knock back: to take it as a challenge. I am learning to see problems as opportunities, mistakes as things that can be put right. My curiosity is coming out in the quality of proposals I put to my line-manager and she says ‘let’s do it’.

Before, I felt I’d reached the peak of my potential. Now, my outlook has changed completely. It’s like ‘kick-starting’ my life again... Before, curiosity was something I just didn’t have time for. I have moved into a completely different gear which previously I didn’t have the motivation to use.

My new role and ELLI have enhanced my motivation. To some extent, it has re-built my belief in myself! (A Senior Administrator)

It has offered a way of focussing what we are trying to do – articulating and focussing. (A Computer Studies Tutor)

...if my profile says I've got the skills I have, I can have confidence (A Computer Studies Student)

This has been the hardest year of my life. There’s been so much to take in. I didn’t really have a learning pattern. I have become more confident with myself. (A Computer Studies Mature Student)

It was handy because it gave a focus to the discussion. (A Business Management Tutor)

It reinforced that you were doing OK. I hadn’t really thought about it before. It gave you confidence. Even things I was not so good at I could think what I could do about them... The second time, (my profile showed) I have ‘pushed’ at some weaker ones. I’ve done assignments early and drawn up plans etc. My Strategic Awareness went up (An AG&C Student)

I never enjoyed presentations. The last one I did, I enjoyed it. I was a different person! ... I’ve become more organised and it’s reduced my stress levels. My wife says I seem more relaxed. I’d always denied I was stressed! (An AG&C Student)

I’ll continue learning. Seeing you’ve improved gives you a ‘kick-start’: there’s ‘life in the old dog yet!’ ...You’re talking about it instead of seeing yourself as a failure. That’s what I tend to do, but I intend to change! (A mature AG&C Student)

I got a nice surprise: I thought it would all be low but I had strong ones (dimensions). I am working on it, mainly working in groups and speaking more in class. I am putting my point across more... I wish I’d done this (ELLI) then in my other degree, because it might have helped me to see what I could do to make it better. I might have stuck at it and seen it more positively. (A third AG&C Student)

For example, with Student 4 (from the above group), Learning Relationships was an issue; we discussed that and he was heartened to see it had changed in his
second profile. It’s a confidence thing! …it’s been a very good confidence booster for those who took part in the follow-up interviews. (An AG&C Tutor)

This approach to evidence-based practice was new to them. It changed the way they learned. They (had) tended just to believe whatever they were told by senior staff; they didn’t see the need for research and evidence to assist further learning: so Changing & Learning were required! (A Tutor of International Nursing Students)

An example of the way I’ve changed is that, in a group, I used to give out ideas but not develop them. Then, (after thinking about) Learning Relationships, I made sure I’d contributed enough and consulted others. With Meaning Making, I really took an effort to read around the topic, especially in the group assignment. (An MSc Student in HR Mgmt)

4.2.4 Finding:
Several participants reported a similar outcome in terms of positive change to relationships, interactions or perception of roles, often through conversations stimulated and/or informed by use of the ELLI tool

Evidence included:
The most important things about this project are… for staff, to have contact with the students that we wouldn’t have had without it …
As a result … the students see us in a different light, as people who can support them, help them to develop – not just there to lend them books! … It also raises our profile with academics: it’s seen that we can and do support student learning in a more active and effective way than is sometimes thought. (A Senior Librarian)

It has led to conversations with students that have been instigated by ELLI. (A Computer Studies Tutor)

One ITMB student had written about ELLI, ‘I think this tool has no benefit for me… a waste of time!’ I spoke to him and said, ‘You need to say why; justify your views!’ We had a really beneficial discussion. I think he changed the way he thought about it. It provoked a discussion with a student who was saying, ‘I don’t need to know how I am or how I can change!’ Choosing not to engage is far more destructive than anything else. (Another Computer Studies Tutor)

All of them were engaged in the conversation… I think for me it (the most important element) was helping me to get to know the students a bit better… I feel I know them better as individuals than I did previously. What I got was an awful lot more background… My relationship with individuals within the group improved. They don’t feel anonymous. It’s tremendously important (to them) that you’re recognising them as an individual. (A Business Studies Tutor)

I’ve enjoyed the group work more, so that has changed. (An AG&C Student)

Learning Relationships was the weakest (dimension for me). I made an effort to engage more with other people and reflected on everything else (in my profile).
Then when we had discussions I took more part in it because I was consciously trying to improve my Learning Relationships. I got quite a lot of benefit. (Another AG&C Student)

It gives a good, caring, non-judgemental reason for talking to people, trying to help people build confidence and feel better about themselves: an important thing to be doing! (An AG&C Tutor)

Wherever I’ve been engaged with ELLI it’s been good for relationships because it stimulates dialogue and dialogue is what relationships are all about. (A Health & Community Tutor)

They found the profiles a helpful starting point for discussion and development with their students (A MAP Tutor)

(Have relationships been affected?) Yes! More positive working relationships! In team meetings there has been a lot of debate about ELLI, not all positive. It’s been good watching staff working with ELLI.

In one reflection, (a student wrote that she) had intended to work alone but realised that others could help her. The ELLI profile helps that, because Learning Relationships is one of the dimensions.

(…through ELLI and PALS) …students have become … more appreciative of the need to work well with others. (A Business Mgmt Tutor)

4.2.5 Finding:
Several of those interviewed commented on the importance of following up the survey with support to maximise the benefit of it, some reporting that they or their students would have valued more guidance, particularly in terms of strategies and support for developing learning power

Evidence included:
This might be better in the context of a conversation, (otherwise) some might switch off and disengage. With a one-to-one, the context is important, even if it is only re-affirming, reinforcing what they already know; making sure there’s nothing wrong with that. (A Senior Librarian)

Having this chat with you re-awakens the ideas. Maybe we should chat about it more in class. (A Computer Studies Student)

I really need to sit with the tutor and talk about strategies for working on these things and getting more involved, taking advice instead of just working on my own. I used to think I was a failure if I asked for help. (An AG&C Student)

I think it has built on existing guidance and counselling skills in terms of supporting students. … The small group or one-to-one sessions were absolutely essential to overcome the deficit model. (An AG&C Tutor)
It does matter how it is introduced and followed up: it needs one-to-one which is not possible with very large numbers (Researcher and Project Manager for an HEI)

As a result of the one-to-one conversations, they started looking at ways of developing, (especially Critical Curiosity and reflection...) (A Tutor of International Nursing Students)

We would have benefited from more guidance in interpreting the results – we were not sure at first whether ‘biggest is best’ etc. There were no individual conversations to follow up the survey, they were held in small groups; time was given to this but they were not conducive to making progress. We would have liked to be given some steps for practical action; some guidance on ‘how do I relate this to myself?’ – someone to sit you down and say ‘What’s your next assignment? How can you be more creative?’ in the immediate context. Lecturers should be more involved in the process so they can give you activities that allow you to be (e.g.) more creative. (A Corporate Management Student)

What’s missing is the step between this and strategies. Could have done more about this! If (strategies are) not provided, it’s easy to be ignored (Another Corporate Management Student)

There was no explanation of strategies (for improvement) though. (Another Computer Studies Student)

We don’t think it (the questionnaire) works on its own: it needs support afterwards... You can teach them to reflect but they need an opportunity to sit down and talk about it afterwards. (Two Computer Studies Tutors)

... as long as you have someone to help you look at it with you from a detached perspective. (A Computer Studies Tutor)

4.2.6 Finding:
Several participants reported that they, or that some of their students, tended to ‘home in’ on their weaknesses and see the ‘deficit’ in their profiles at first, though most of them reported this in terms of a positive opportunity to improve

Evidence included:
... some reacted negatively to a perceived ‘failure’ when they had low ‘scores’ in some dimensions. They tended to compare with each other. (A Computer Studies Tutor)

The weaknesses (struck me) more than the strengths. It’s good that it puts it in the back of your mind and if you’re not doing well at something (you can) ask ‘Why not?’ It might be due to this weakness. (A Corporate management Student)

I looked at the things I was not good at. My Learning Relationships was quite low. (An AG&C Student)
I think it’s shown me the ones I need to work on. When I looked at this (2nd profile), some have gone down and I was disappointed. Looking at it, it’s quite clear where my weak points are. (Another AG&C Student)

(There’s) one question about negative feedback: I was disappointed (at first) but I went and discussed it and saw it as an opportunity to learn something. It’s only feedback: you’re not getting the sack! (A third AG&C Student)

…for some they saw it (the first profile) as a deficit… One student had misread the second profile and was disappointed. …(An AG&C Tutor)

…In the ‘Consultancy’ module… website design… we’ve had to inquire: use Critical Curiosity! Now you know it’s a weakness, you try and do more about that than the others. (A Computer Studies Student)

I really liked the positive approach of (using the idea of) Learning Power to address the deficit model. (Head of an English Language Centre in an HEI)

Whenever I do such a test, I always pay attention to what it says are my weaknesses. ‘How does that influence my behaviour?’ It gives me a suggestion, a recommendation about what I should concentrate on. E.g. ‘Is it true that I am weaker in Strategic Awareness?’ … Before, the survey tells me Strategic Awareness is a weakness, so I start to look at it. I don’t know whether it is true or not but it gave me something to work on. (An MSc Student in HR Mgmnt)

…if some (ELLI) scores have decreased it doesn’t necessarily mean it’s a bad thing. You can use that as a starting point for change. (A Mature AG&C Student)

4.2.7 Finding:
Two participants, a student and his tutor, observed that external pressures, particularly those of external assessment, may have a negative effect on learning power and/or people’s interpretation of it

Evidence included:
I was under pressure when I did it the second time; my Resilience stayed the same, because I reverted to old ways, answering as I was at that time of pressure – remembering! (An AG&C Student)

…it might have been better to wait until their assignments were in and feedback given, etc. It was a time of heightened anxiety. (An AG&C Tutor)

4.2.8 Finding:
Two tutors raised questions or issues about how the ELLI instrument was responded to or what it seemed to be indicating.

Evidence included:
A consideration: there seems to be a culture of self-labelling in terms of learning styles – e.g. the Visual, Auditory, Kinaesthetic model: students tend to transfer this to the ELLI dimensions (A Foundation Degree Tutor)
...strange that students report themselves as lower on Learning Relationships after a PBL course (emphasis on collaboration etc)... Would expect it to be raised (improved)! Other indicators suggest that group dynamics were a very strong feature... Is it because ELLI was developed with schools? Perhaps the tool may not be picking up on the right things in the HE context? (A Psychology Tutor)

4.3 Qualitative Data and findings in relation to RQ3
(What are the relationships between the concepts and strategies associated with learning power and the qualities needed to succeed in HE, both for traditional and non-traditional learners?)

4.3.1 Finding:
Much of their feedback suggests that staff and students alike (encompassing both traditional and non-traditional learners) regard the learning power concepts and strategies as having significant positive impact on qualities they regard as essential to success in HE and beyond. The key elements include: engagement in reflection, the sense of a learning identity and strategic personal development, ‘student ownership’, awareness of learning processes, acquiring a language of discourse about these things and empowerment to self-regulate, effect positive change and overcome obstacles.

Evidence included:

The most important things about this project are, (for staff, to have contact with the students that we wouldn’t have had without it and,) for students, getting them to realise that lifelong learning skills are important through life – in employment as much as in academic life, because they’re learning, whether in formal situations or very informally. (A Senior Librarian)

Students find it difficult to articulate reflection; ELLI gives them a language for this. They tend to describe what they’ve done, rather than explain, say why, etc. ... ELLI gives them a vocabulary and a sense of different aspects and ways of overcoming obstacles in learning.

It is a useful tool; one of a range we can use to help students to think about, appreciate and plan their own learning: have a ‘rounder’ appreciation of themselves as learners. It is about embedding reflective practice, which doesn’t seem to happen so much with people who haven’t used it. (A Computer Studies Tutor)

It’s improved, but not only on what I learn but how I learn... and you never work on this. (A Corporate Management Student)

(...the single most important element is...) that the learner has ownership! There is a possibility (made evident by the ELLI profile) of developing themselves, improving their academic qualifications. (A Computer Studies – Placements Tutor)

(it is about...) a sense of furthering who you are as a person and developing it. I am trying to become a better manager. I have to help staff become better learners and understand the need to model that. (It is important to) recognise differences –
everyone has different approaches and attitudes – and be able encourage all of them. (A Senior Administrator)

Whatever their initial response, it can be a starting point for addressing the crucial business of engagement and negative identities as a learner. I think ELLI is an empowering tool because it allows you to reflect on yourself – as long as you have someone to help you look at it with you from a detached perspective.

One mature Foundation Degree student – SAS trained - had a very ‘precise’ view of life… following orders… doing a course on ‘decision-making’ – was saying he found the touchy-feely judgements based on emotions and reflecting on self ‘weird’. Now he’s doing an Honours (Degree) and wants to go on to a Masters. He is totally empowered by the process of PDP. We are seeing the change in people’s development and ELLI will play a big part in this process.

I think it’s making a difference because it’s getting them to engage earlier, though the level of engagement is open to debate. (A Computer Studies Tutor)

It helps with every aspect, personal and academic. … It shows what sort of person you are. I’ve got an assignment due in tomorrow, the hardest I’ve ever done: stressing the need for resilience. I did eight hours without a break, without asking (for help). (A Computer Studies Student)

When they saw it was something (that was) in their (own) hands to change, it was a very positive thing. (A Business Management Tutor)

…across the Institution, we have been asking, ‘What are the characteristics of a lifelong learner?’ ‘What is ‘graduate-ness’?’ ‘What can we do, within our control, to develop these characteristics?’

The Research Question here was: To what extent does exposure to ELLI raise staff awareness of how they might address the issue of how to engage students in their own personal development? ELLI (offered) quite an interesting framework and language for them.

We are interested in how staff and students can use ELLI to enhance their learning experience, by engaging with personal development and reflection. The development of identity is an important area, especially in the Business School, but is also promising in Design.

ELLI) it has been a very useful additional string to our bow in trying to get them to engage with personal growth and development. This has particular relevance (at a substantive level) in the education and social care sectors.

…lots of qualitative evidence of ways ELLI has helped to develop engagement, awareness, a language of learning

(A Health & Community Tutor)

Most of the class agreed that we had never thought about how we learn. (An AG&C Student)
The learning process was the most important thing for me.  (An AG&C Student)

For all, it increased their understanding of learning how to learn etc… A quote from one student was interesting: ‘I think this is the first time any of us have thought about how we learn!’

I think it has broadened their thinking about what learning is: the fact that it is possible to learn to be a learner; there are strategies, tactics and different aspects of learning. That’s news! A very positive thing with wider application than students’ improvement in the course: that bit about ‘actually developing as a result of the profile’ fits perfectly with Advice, Guidance & Counselling. It as really enhanced the programme, ‘across the piece’! (An AG&C Tutor)

The culture (of the course) has changed dramatically for the first time
Students are less dependent on tutors.  (Two Computer Studies Tutors)

It’s created an awareness of their ‘learning power’: they’ve never ever thought of themselves as having any ‘learning power’: they are (now) more in control of their learning.  (Two Computing & Communications Tutors)

One or two had regressed on one or two dimensions and this sometimes surprised them. A few, perhaps three, said ‘perhaps I’ve had to re-calibrate the scale – now I’ve been at Uni for six months’. It highlights the difference from school: even successful learners, on entry, think that learning is found in a book. (A Psychology Tutor)

For me Reflection is a crucial issue: how we support it; staff understanding of what critical reflection means; the danger of students rejecting a ‘tick-box’ approach.  (A Leisure & Tourism Tutor)

The main aim is to get them to reflect and analyse, rather than just describe.  (A Business Mgmt Tutor)

Judging from their feedback, we are getting students earlier to become analytical rather than descriptive.  (Another Business Mgmt Tutor)

Key themes emerging from trialling ELLI in variety of settings include its usefulness in relation to:
  o engagement in reflection
  o transitions:
    ▪ international students – cross-cultural understanding
    ▪ from school to university
    ▪ from university to work
  o how to do Personal Development Planning
  o improving learning and teaching
(Notes of ‘Plenary Reflections’ taken at Interim Dissemination Meeting with seven Partner Institutions represented)
(Q: What matters most to you about your learning at University?) A: University isn't just a place to offer knowledge; you can get knowledge outside, anytime. For me, it's the way you learn. You have to learn an effective way to learn. Once you have this skill, you can learn in any environment. So my answer is 'learning development!' You won't always have teachers in front of you, people telling you how to do this... improve this skill! (An MSc Student in HR Mgmnt)

4.3.2 Finding:
Some participants saw in the concepts and strategies the potential to improve professional practice and students' educational experience in HE settings, in particular, as well as by creating a common language of discourse about learning, through: improving Teaching & Learning, enhancing coherence and integration across cultural or academic divides and helping them to achieve assessed outcomes.

We have to do a reflective journal. I'm doing 1500 words on ELLI, about learning organisations – companies that invite good learning. I'm doing it myself. (A Corporate Management Student)

It will give us a chance to interact about changes and what might contribute to them. (We can ask) 'To what extent does it (ELLI) impact on staff professional practice? (and) 'What sort of strategies does it lead to?'...In the past, this would have been called 'Guidance': the role of the Guidance Tutor, with some academic support. We are interested in its relationship with teaching.

Question: what is the relationship between these (learning dispositions) and the dispositions for teaching? It's implicit that they're the same: (to be a good teacher) you have to be a good learner!

The Research Question here will be: To what extent can ELLI work across subject boundaries to create a useful common language for student and learning development...? (and so on). I was invited to a small strategic planning group with 3-4 senior managers and the Learning & Teaching Associate Dean to look at what we are trying to include in an integrated, inter-disciplinary, model curriculum to address employability and competencies for global citizenship. Another Research Question: What are the links between ELLI and inter-disciplinarity?

(Q: What is the most important single element?) A: Last, but this should really be first: its potential to lever change in learning and teaching practice. (A Health & Community Tutor)

We built it into modules. I wanted them to evaluate the module and the learning experience as well as their own progress and they could use ELLI to help if they wished to. It was not specifically linked (to the content). In evaluating 'Contribution to the module', we had ELLI feeding into module evaluation, with presentations and seminars: not only about what you've got out of the module but what you've given to it as well. (An AG&C Tutor)
(As a result of the one-to-one conversations, they started looking at ways of developing, especially Critical Curiosity and reflection.) This tied in with marking criteria for their essays and portfolios, which included ‘reflection, reference and researching’. (A Tutor of International Nursing Students)

I am looking at the connections between modules. It is incremental: useful as a means to awareness. (A Leisure & Tourism Tutor)

It was the first time I’d thought about myself. That is common in Nigeria. People don’t think about what they’re good at, they just copy what someone else is doing, uncritically. (An MSc Student in HR Mgmt)

There’s the cross cultural (dimension) too: getting people from different cultures to work with each other. (A Business Mgmt Tutor)

ELLi might be the biggest element of PALS. The team worked well together on the development; we had a tight, well-structured framework. It helped to work to the same script; there were more idiosyncrasies in the old system. Now, we are all using the same approach, discussing in the same language. ELLi contributed a bit to this. We are working with a focus. (Another Business Mgmt Tutor)

4.4 Quantitative Data and findings in relation to RQ4
(What impact do interventions designed to promote personal development in HE settings have on levels of learning power as assessed by the ELLi instrument?)

4.4.1 Available sample and analysis of quantitative data for pre-post comparisons

Where participating tutors had completed the interventions in time, the students were invited to complete a second ELLi questionnaire online in June and July 2008. The data were then captured on the server and matched to those individuals’ pre-intervention data. In order to assess whether there were greater levels of learning power reported after the interventions, a paired samples T-test was computed (where there were both a pre- and a post-test available) for the whole cohort and for three institutions.

The size of the sample which completed the cycle of pre-intervention ELLi assessment, interventions and post-intervention ELLi assessment was 503. However the number of students for whom there was a full data set for both pre and post (i.e. the matched sample) was 406. The institutions where there were sufficient numbers to warrant further investigation were Northumbria (N=120), Sunderland (N=118), NEWI (N=44), The OU (N=26), Gloucestershire (N=18) and Worcester (N=53). Only in the first two of these, Northumbria and Sunderland, were the sample sizes sufficient to yield statistically significant findings in relation to the changes in learning power reported by their students post-intervention.

4.4.2 Pre-post comparisons for matched sample

Tables 9 and 10 below show the results of this analysis for the whole available sample of 406 learners across all institutions where students completed the full cycle:
### Table 9: Paired sample statistics for matched sample across six institutions

<table>
<thead>
<tr>
<th>Pair</th>
<th>Category</th>
<th>Mean (Pre)</th>
<th>N</th>
<th>Std. Deviation (Pre)</th>
<th>Std. Error Mean</th>
<th>Mean (Post)</th>
<th>N</th>
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### Table 10: Paired Samples Test for matched sample across six institutions

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<td>Std. Error Mean</td>
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<td>t</td>
<td>df</td>
<td>Sig. (2-tailed)</td>
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<tr>
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<td>Mean (Post) - Mean (Pre)</td>
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<td></td>
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<td></td>
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<td>-2.15052</td>
<td>-4.300</td>
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<td>.168</td>
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Finding: these data indicate that this cohort of 406 students who completed pre- and post-intervention assessments reported statistically significant post-intervention gains in six out of the seven learning power dimensions. The positive changes were greatest and most significant in Changing & Learning, Creativity and Strategic Awareness. The one dimension where no significant change was reported is Fragility & Dependence, which shows a slight increase, but not to a significant degree.

4.4.3 Pre-post comparisons for Northumbria

Tables 11 and 12 below show the results of this analysis for the 130 students at the University of Northumbria with matched pre- and post-intervention surveys:

<table>
<thead>
<tr>
<th>Pair</th>
<th>Paired Differences</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Std. Deviation</td>
<td>Std. Error Mean</td>
<td>95% Confidence Interval of the Difference</td>
</tr>
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<td>1.26203</td>
</tr>
</tbody>
</table>

Table 11: Paired sample statistics for Northumbria
Finding: these data indicate that this cohort of 130 students who completed pre- and post-intervention assessments at Northumbria reported statistically significant post-intervention gains in five out of the seven learning power dimensions. The positive changes were greatest and most significant in Strategic Awareness and Learning Relationships. The two dimensions where no significant change was reported are Critical Curiosity and Fragility & Dependence, which both show a slight increase, but not to a significant degree.

4.4.5 Pre-post comparisons for Sunderland

Tables 15 and 16 below show the results of this analysis for the 118 students at the University of Sunderland with matched pre- and post-intervention surveys:

```
<table>
<thead>
<tr>
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<th>Dimension</th>
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Table 15: Paired sample statistics for Sunderland
<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error Mean</td>
<td>95% Confidence Interval of the Difference</td>
</tr>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error Mean</td>
<td>95% Confidence Interval of the Difference</td>
</tr>
</tbody>
</table>

**Table 16: Paired Samples Test for Sunderland**

Finding: these data indicate that this cohort of 118 students who completed pre- and post-intervention assessments at Sunderland reported statistically significant post-intervention gains in four out of the seven learning power dimensions. The positive changes were greatest and most significant in Changing & Learning, Creativity and Strategic Awareness. The three dimensions where no significant change was reported are Meaning Making, Learning Relationships and Fragility & Dependence, which all show a slight increase, but not to a significant degree.

### 4.4.5 Pre-post comparisons for other four institutions in the data-set

In the other four institutions for which Paired T-tests were computed, NEWI, The OU, Gloucestershire and Worcester, small increases were reported in most, though not all of the learning power dimensions, but (possibly due to the sample size) none of these was to a statistically significant degree. Increases approaching significance were reported at Worcester in Changing & Learning and Strategic Awareness and at the OU in Resilience (i.e. a decline in Fragility & Dependence). Tables showing the details can be seen in Appendix 7.


5 Discussion of Findings

This was a pilot study initiated by tutors in 14 institutions during the academic year 2007/8. Whilst there are many limitations to the project, including its complexity and engagement with practitioners, there are several emerging themes which can be synthesised and which, when compared with data from other research projects, suggest that this avenue of both research and practice is likely to yield more fruit with further exploration.

5.1 The key themes emerging from the qualitative evidence

The sample of respondents from whom qualitative feedback was collected was self-selecting, based on availability of personnel, their time and completed project data in the required timescale. The evidence quoted verbatim in Chapter 4 above was nevertheless collected from over 40 people working or studying at seven universities: Bedfordshire; East Berks College of HE; Gloucestershire; Manchester; NEWI; Northumbria and Sunderland. They included 15 students, 19 academic staff, 5 senior managerial staff and 9 project partners (some of whom are also amongst the 19 academic staff). The range of subjects represented is relatively narrow in the student sample (4 different subjects) broader in the academic staff sample (11 subjects), though vocationally orientated courses such as Advice, Guidance and Counselling, Business, Computer Science and the Built Environment are more heavily represented than more ‘academic’ subjects such as Psychology. Some important areas, such as pure sciences and mathematics are not represented at all in the qualitative feedback, but are included (N=290) in the quantitative data set, as can be seen in Table 6 in Chapter 4, section 1 above.

Notwithstanding these limitations to the sample, some important key themes emerged concerning the relationship between ELLI and the HE environment in which it was being tested for the first time:

i. the wide range and variety of HE contexts to which the ELLI instrument, its concepts and strategies were found to be applicable, now and for the future, including work based learning and personal development planning
ii. its good face validity and accessibility
iii. its potential to raise and deepen awareness of self and others as learners, stimulate positive personal change and improve learning relationships
iv. the importance of staff commitment, time and management priority to maximise potential benefit, including the provision of personalised mentoring support for following up the ELLI profiling
v. the tendency of some students to be self-critical at first in response to their profiles, often followed by a more positive determination to improve
vi. the need to ensure that ELLI profiles are only acted upon insofar as they are found accurately to represent aspects of learning power and that they are not misinterpreted or misused
vii. a wide recognition of the value of the concepts and strategies associated with the use of the ELLI instrument and their positive potential impact upon:
   ▪ the development of qualities seen as essential to success in HE and beyond, for both traditional and non-traditional learners, especially:
- reflection
- self-awareness
- self-regulation
- strategic personal development

- quality of provision in HE, especially in:
  - providing a language of discourse about learning
  - engaging students in reflection
  - managing transitions between stages, cultures and environments
  - improving teaching and learning
  - managing PDP processes
  - improving integration and coherence across institutional boundaries.

This evidence can be seen as a powerful endorsement of the project’s original aim and purpose and an indication of both the value of the ‘pilot’ work undertaken by the partners in this project and the need and potential for further research. Several of these themes are about the power of these ideas and practices to stimulate and inform profound personal and organisational change, concerning ‘learning identity’, focus, confidence and self-regulation, for individuals, and the strategic management of cultural and pedagogic developments for institutions.

5.2 Key themes emerging from analysis of the quantitative evidence

The analysis of the quantitative data demonstrates that the scales which constitute the seven dimensions of learning power remain reliable and valid as measurement tools with this population, and are consistent with other studies (Deakin Crick 2004; Deakin Crick and Yu, 2008). Although the scales reached acceptable reliability levels, the data suggest that they may be improved and that a further exploratory factor analysis may lead to an improvement of the scales and concepts in the inventory for the adult population, in Higher Education. Particular attention should be paid in this to the scale for learning relationships, which is complex conceptually. Furthermore the reporting in this study used only 72 items in order to be consistent with the online individual feedback data and thus to triangulate with the qualitative study, but the number of items answered and thus included in the data set is 90. This further exploratory analysis and development of the instrument is beyond the scope of this report, but remains an important priority for further work.

Another key finding from the quantitative data is that levels of learning power vary with individuals, groups, institutions, modes of study, discipline and age. This finding is consistent with our school based data (Deakin Crick et al 2004) and suggests that learning power is a malleable concept which is impacted by environmental variables – both structural as in mode of study, and institution; biological in relation to gender and age; pedagogical as in work-based learning and action learning sets; as well as being related to individual cognitive, emotional or psychological variations. Further study using hierarchical linear modelling techniques would aid this investigation.

One variable which seems to be significant is whether a student is in a regular university course, having arrived straight from school (these reported the lowest levels of learning power) or whether they were in work based learning, either going into the work place from a university or coming back into a university from the work place. The latter reported the highest levels of learning power and the lowest levels of fragility and dependence. The
suggestion is that the people engaged in work based learning are more likely to be engaged in deep learning for personal reasons, rather than simply acquiring qualifications. (Bateson 1972). A similar pattern was found in those students in the Open University who by definition are undertaking distance learning and are more likely to be spread throughout the age range.

The age factor in this population continues to be significant in terms of levels of learning power. The students in the 18-24 bracket, generally full time school leavers, reported the lowest level of learning power on each dimensions, but the mean scores tended to increase with age. This may have implications for lifelong learning: firstly, that adults who have a defined purpose in coming back into formal study are by definition likely to be more aware of and proficient in their learning dispositions and, secondly, that learning is truly a lifelong human task. It is also interesting to set these findings alongside those of earlier studies which show levels of learning power reported by students of school age to decline as the ages increased, from a peak in Key Stage 2 (age 8-11) to a low point at Key Stage 4 (age 14-16). The evidence suggests that learning power is suppressed rather than fostered by the experience of learning at secondary school age, remains relatively low in formal, full-time higher education straight after school and recovers as learning becomes more relevant to life as a whole.

The paired T-tests demonstrated that learning power is changeable and improvable given the right circumstances. The significant differences in this study suggest that what tutors in universities do in terms of practice does make a difference to how their students understand what it means to be a learner and act as learners. The strong theme from the qualitative evidence concerning the usefulness of these concepts and strategies in helping to engage students in reflection and develop self-awareness and self-regulation supports this finding.

A question that invites further study is about the relationship of learning power to the manner in which curriculum content is delivered. Some of the interventions reported on here were undertaken in fields such as Human Resource Management, Psychology and Advice, Guidance and Counselling, where reflection on process can be (some might say ‘should be’) interwoven into the formal content of the curriculum. Some of these were formally constituted as problem based learning projects, or action learning sets and others were related directly to real life in the work place. In any such case, the use of the ELLI tool invites learners to use a newly-articulated awareness of their own learning identity and how they learn as a stimulus or starting point for understanding change processes inherently related to the theoretical and practical content of their course. By introducing these concepts and strategies in a way that enables learners to bring about change in their learning dispositions or actions and by incorporating reflection on such change into the requirements of the course, tutors effectively re-sequence the way in which the students encounter the prescribed content of the formal curriculum. As some of the qualitative evidence suggests, this ‘bottom up’ approach to content invites real life participation in a manner which engages the person who is learning and requires deep and applied learning rather than repetition and recounting of already-processed knowledge. It would be interesting to investigate whether this effect is differentially apparent in more ‘academic’ areas such as mathematics, sciences, literature, where the connections between person, process and content are less obvious and more subject to the creativity and meaning making capacity of the learner.
6 Conclusions

In conclusion, whilst this project may have raised more questions than it has answered, its findings have certainly underlined the importance of those with which it began. It has illuminated valuable lines of enquiry into them and provided the beginnings of a ‘road map’ for further investigation. At a time when widening participation, student retention, developing ‘self-regulation’ and the integration of international and non-traditional learners are key economic and policy objectives, when the nature and quality of teaching and learning in universities and the relationship between formal learning and work are under continued scrutiny, this enquiry represents rather more than a scratch on the surface of a complex, interconnecting ‘jig-saw’ of research, policy and practice priorities. The breadth and variety of contexts in which the ideas and strategies were found applicable, the consistency with which positive impact, some of it profound, was reported by staff and students alike and the relevance of that impact to the priorities just mentioned, reflect a momentum of interest and support that cries out to be harnessed in further research and formally evaluated development activity. The quantitative and narrative findings taken together suggest that such further investigation is likely to yield significant evidence supporting the case for change and illuminating pathways for personalisation and other qualitative improvements in the provision of higher education in the UK.
7 References and further reading

Exeter University What Employers Really Want [http://www.services.ex.ac.uk/cas/employability/whatemployerswant.shtml](http://www.services.ex.ac.uk/cas/employability/whatemployerswant.shtml) Source, Harvey, L. & Green, D. (1994)
Small, T. (2006a) The Learning Agents, Bristol, ViTaL Partnerships
Small, T. (2006b) Learning Outside the Box, Bristol, ViTaL Partnerships