



# LEX

## The Learner Experience of e-Learning

### Methodology Report

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# LEX – Methodology Report

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# LEX - Methodology Report

## 1. Introduction

This report has two main aims:

- To describe the methodology employed in the LEX project and to provide a rationale for its choice.
- To offer some brief guidelines for other researchers who may wish to adopt this approach in subsequent projects in this programme.

The Learner's Experience of E-Learning (LEX) research study was funded under the Pedagogy strand of the JISC e-Learning Development Programme and ran from May 2005 to June 2006. It formed part of the 'Understanding my Learning' theme which is exploring learner perspectives on e-learning. The aim of the study was to investigate learners' current experiences and expectations of e-learning across the broad range of further, higher, adult, community and work-based learning. The project adopted a very broad view of e-learning to encompass a spectrum of technology use from completely online courses, through campus-based courses enhanced by digital resources, to more personalised use of social software and mobile devices.

LEX followed on from the Learner Scoping Study undertaken by Rhona Sharpe, Greg Benfield, Ellen Lessner and Eta De Cicco in 2005, which provided its underpinning theoretical and methodological basis. The literature review undertaken by the scoping study indicates that the majority of e-learning research is written from a practitioner's perspective, with only a small minority allowing the learner's voice to come through.

The scoping study provides a convincing case for conducting research into e-learners with a rather different focus from that revealed in most of the current literature on e-learning. That predominant approach examines the effect on learning of what might be regarded as input variables that are under the control of institutions or teachers. Thus, most research has been devoted to exploring the effect of differences in learning environments, pedagogical procedures or learning materials on learning outcomes. This mainstream approach reveals some influence of constructivist pedagogy, but largely neglects a genuinely learner-centred perspective: that students experience formal learning in emotional terms, that their motivation to learn is only understandable by looking at their lives holistically, and that technology is embedded in their social experience.

*'A holistic view of e-learning should lead to a methodology which is open ended and empowering enough to allow the learners to be the ones who highlight the issues which are important to them. ....We noted that the majority of the research to date has focussed on observable learner behaviours. There is an opportunity to design the forthcoming research study so that it is able to shed light on the learner intentions and rationales behind commonly noted observable behaviours'.* (Sharpe et al, 2005)

LEX aimed to build on these studies and help to address the imbalance by adopting a methodology that would allow the 'learner's voice' to be heard. The author of the current report was invited to act as consultant to the project, particularly to offer

advice on a suitable methodology.

## **2. The Scoping Study's Recommendations on Methodology**

The scoping study argued convincingly for a research methodology that was capable of capturing the affective, social and conative aspects of the student experience, in contrast to the conventional focus on the cognitive. Two major gaps in data collection methodologies were identified by the scoping study:

- stories or narratives that capture the diversity of how students use learning technologies in their formal studies
- attempts to elicit beliefs and intentions.

The study proposed that ideally a methodology capable of filling these gaps should display at least some of the following characteristics:

- It should be 'naturalistic' (focusing on informal as well as formal learning)
- It should capture the complexity and authenticity of case studies
- It should sample purposefully (choosing learners who are characterised by behaviours or qualities of particular relevance)
- It should focus on typical e-learning contexts rather than on specific types of activity
- It should employ semi-structured interview schedules

### **2.1. Interview Plus**

The study proposed a method termed '*interview plus*', where the 'plus' represents some artefact or activity chosen to guide recall or aid thinking aloud. Some examples of possible artefacts were given as follows:

- The learners own diary kept for the research study, or course-related learning log.
- Observation e.g. the interviewer sitting with students as they logged on and asking them questions about their intentions and perceptions in real time.
- Learners' progress files.
- Students' work
- Tracking, monitoring data from a VLE, for example showing login times and durations to elicit information about online behaviours

*'Using this approach is also likely to preserve the emphasis on eliciting feelings, perceptions, thick descriptions of experience that is the aim of the study than say employing surveys in combination with interview data'. (Extract from Scoping Study)*

### **2.2. The Scoping Study Guiding Principles**

The Scoping Study offered six guiding principles for an ideal learner-centred methodology:

- Open ended methods (allowing unexpected issues to emerge).
- Mixed mode (eg diaries; observations; interviews; focus groups).
- Triangulated (more than one source of evidence used).
- Access beliefs and explanations and intentions.
- Talk about learning with learners.

- Authentic contexts.

### 2.3. Recruiting Participants

The Scoping Study rightly pointed to a potential difficulty in meeting the methodological requirements. The study quotes evidence that groups who are already traditionally disempowered are particularly difficult to recruit to engage in review and research focus groups. This is a neglected topic in the literature. The study offers the following recruitment strategies:

- Conduct the research jointly with groups with which the participants are affiliated – for us this might be teachers/course authors.
- Make use of researchers' own informal networks to gain access.
- Use a local contact person to gain access – give assurances to these people and answer all their questions promptly and fully.
- Send individual letters, followed by a telephone calls at 2 weeks and 1 day prior to date to confirm participation.
- Ensure all correspondence is personalised and that the individual participant has experiences and insights that will be of benefit to the research study.
- Make a point of showing how the research will benefit the community.
- Ensure follow up – allowing participants to see the results of the research and the action to be taken as a result of the research.
- Scheduling needs to be flexible and informed. Interviews need to be conducted in periods when students are actively engaged in their studies yet not overwhelmed by examinations or other similar high-workload periods

*'In virtually all cases likely to be associated with this study the learner should be able to expect at least a learning benefit through reflection on their experience. It may be even more direct than that where the study involves production and discussion of student-created artefacts, like diaries, web sites, critical perspective pieces and so on'.* (Extract from Scoping Study)

### 2.4. The Scoping Study's Recommended Research Design

Sharpe et al concluded that previous studies have attempted to study differences in individual reactions by categorising individual differences or conducting course evaluations which are highly contextualised and lacking in generalisability.

They proposed a research design which:

- asks questions which tackle the holistic experience
- purposefully samples learners from situations where the literature review would suggest that we would find differences and those which we have identified as being under-researched
- uses methods which allow the learners voice to shine through
- uses methods which elicit learner intentions and beliefs
- begins to characterise the beliefs, intentions and strategies of effective e-learners
- develops an evolving framework which allows the determinants for what makes for an effective e-learner to emerge, rather than being prejudged

- reports the outcomes as a collective case study drawing together individual voices from the purposefully selected learners.

### 3. The LEX Research Design

The LEX project final report details the decisions taken on sampling, recruiting participants, obtaining learners' 'stories', using artefacts, conducting interviews and focus groups, recording, analysing transcripts, and developing a conceptual framework for interpretation.

Not all of the methodological recommendations from the Scoping Study could be achieved in a one-year study. The project team, in discussion with the project consultant, spent some time considering the options for a method that would allow maximum focus on the research questions, while still be achievable within the project resources and timescale. Qualitative methods are appropriate in situations where one needs to first identify the variables that might later be tested quantitatively, or where the research team has determined that quantitative measures cannot adequately interpret a situation. Both applied here. A qualitative method was therefore chosen, using data collection methods in an open ended way that would give the maximum opportunity for the learners' voice to be heard. Sampling was designed to cover the full range of post-16 formal blended learning groups, rather than sample on the basis of particular learner attributes or behaviours. Thus, all subjects were e-learners, and a member of one of the categories: HE, FE or ALC.

As in any other methodological approach, the choice of a particular qualitative method should depend upon the research questions being posed. There are a number of qualitative analytical tools that can be applied to educational inquiry. These include discourse analysis, conversation analysis, grounded theory, and ethnography. However, if a research project is centred around exploring the experiences of individuals, as here, then a strong candidate as an analytical tool is a recently developed method called Interpretative Phenomenological Analysis.

### 4. The Methodology of Interpretative Phenomenological Analysis

The approach chosen for LEX, then, was that of Interpretative Phenomenological Analysis (IPA). As far as the project is aware the adoption of this method breaks new ground in being applied for the first time to the area of technology-enhanced learning. IPA has emerged primarily as an approach in health psychology, though it is rapidly being applied in other fields. A current TLRP project (Understanding and Enhancing Learning in Community-Based Further Education) is employing the method. The literature has a number of papers that use IPA to study various aspects of identity in an increasingly wide range of settings and group characteristics.

Simply put, IPA is a method for exploring how participants make sense of their own experiences. As its name implies, the approach combines two traditions in qualitative research.

- It is *phenomenological* – it attempts to obtain a detailed story of the participant's own experience, rather than an objective account. It assumes that participants are experts in their own experiences and can offer researchers an understanding of their feelings, intentions, motivations, and attitudes.

- It is *interpretative* – the researchers enter into the process of interpretation. The researchers bring their own expertise to bear on the reflective process of achieving meaning. The interpretations can be drawn from a range of theoretical positions but they should emerge as interpretations of the participant's account, rather than emerging from prior hypotheses.

Two other characteristics of IPA are important:

- It is *idiographic* - concerned with detailed analysis of the particular case either as an end in itself or before moving to similarly detailed analyses of other cases.
- It is *inductive* – the researcher cannot pre-specify the details of the project before analysis, only locate the sample and an area for investigation.

#### **4.1. The IPA Sample**

IPA studies normally use only a small sample size. Indeed, Smith (2004) argues that we will increasingly see the method applied to a single case. The aim is to give as detailed an account as possible of the meaning to the participants of their own experiences, and this is a very resource-intensive process. The idiographic approach is 'bottom up' rather than 'top down'. If a single case can throw light on a phenomenon (on the rapid shifts of emotion experienced by an online learner, say) then it represents a significant research finding. It is normal for IPA studies to finish with general claims, but it is important that generalisations do not emerge too early in the analysis. The purposive sampling favoured by IPA should mean that the participants form a homogeneous group with reference to the research questions. This requirement will often be in conflict with the need to be inclusive of other attributes (such as gender or social class, say). IPA is not an appropriate methodology for comparative analysis (eg comparing subsets of participants). The main requirement is that participants are 'living' the key issue, and they have the required 'expertise' to talk about it.

Smith and Osborne (2003) make the point that it is possible to think in terms of theoretical rather than empirical generalisability: the links are made between a particular IPA study, the professional judgement of users of the study, and the wider literature.

#### **4.2. IPA Interviewing**

The favoured data collection method for IPA is the semi-structured interview. It is perfectly possible to use other techniques, including, as LEX did, focus groups, but by far the most frequently employed method is a form of interview in which the interviewer and the participant can engage in a dialogue that flows from the interviewee's answers, and allows the interviewer to probe more deeply into issues introduced into the dialogue by the interviewee. A fully structured interview, or a questionnaire, would be inappropriate for achieving the depth of meaning that IPA seeks.

In a semi-structured interview the researcher will commence with a set of questions but these will merely act as a starting point for a deeper dialogue about meaning. Clearly, the rapport achieved between the researcher and the interviewee will be all important.

*"In this relationship the respondents can be perceived as the experiential experts on the subject, and should therefore be allowed maximum opportunity to tell their own story".* (Smith & Osborne, 2003).

The idea of 'interview plus', where an artefact is used to initiate and guide the dialogue is an interesting innovation that was trialled with some success in LEX. If introduced and handled sensitively, the discussion that starts with a description of the meaning of the artefact then allows a transition in the level of description to occur, from the more cognitive and impersonal to the affective and personal, in a comparatively seamless way.

The interview will be recorded (preferably with a digital recorder) and transcribed. An IPA interview will normally last about an hour, but there is no prescription about this. The transcript then represents the data for analysis.

#### **4.3. Looking for themes**

Each transcript is read several times with annotations being made in the left hand margin. The aim is for the analyst to become completely familiar with the transcript. The annotations will be summary points, associations, links to other parts of the transcript, clarifications, questions, noting contradictions: the more familiar the analyst is with the text, the more detailed and interpretative the annotations can become. All the time the implied question is 'what does this mean to the participant?' This process is completed for the transcript, then the researcher returns to the beginning and uses the right hand margin to note emerging themes. Here the initial notes are turned into concise phrases which denote a higher level of abstraction. Some examples of themes might be:

- Feelings associated with communicating online with peers
- Sense of frustration caused by lack of IT skill
- Satisfaction experienced at completion of each online session
- Influence on mood of tutor praise/criticism
- Growing identity as a member of a learning group

The themes start at this point to hint at theoretical connections, while still being firmly grounded in the participant's words. At this stage the entire transcript is still treated as data.

#### **4.4. Connecting themes**

Next, the emergent themes are listed in the order in which they appeared in the interview. Now the researcher attempts to cluster themes – this is not unlike the familiar process of a 'yellow-stickie' exercise. Some themes may start to emerge as superordinate concepts at this stage. Frequently at this point the analyst needs to return to the transcript itself to reread exactly what words were used. However, the process now becomes highly interpretative.

A single transcript can be treated as a case study. Each transcript should be analysed independently to the point of listing themes, but it is then appropriate to try to make connections across lists, and to construct a final table of superordinate themes. The themes are not selected simply on the basis of their frequency of occurrence in the transcript, but also on the power of their expression, and the extent to which they succeed in making sense of other themes.

#### **4.5. Collaborative Analysis**

In LEX an innovation was seen in a team approach to analysis. It seems sensible that the process of interpretation which results in the final list of themes will be richer and better grounded in the transcript if more than one team member is independently involved in the analysis, and then the connections between themes and their clustering into superordinate categories is the subject of a dialogue between team members. In a sense this represents a rather loose kind of triangulation. It also has the advantage of drawing all team members into the analysis, revealing in the process some hidden assumptions, conflicting understanding of theory, and differing judgements of what exactly a participant was struggling to express. As seemed appropriate for the nature of the study, the distributed LEX team used social software to facilitate remote collaboration over the analysis.

#### **4.6. Conceptual Framework**

The final stage is to construct a conceptual framework that succeeds in relating the themes back to theory, and to the literature. This stage will typically provide some kind of table or other visual representation of the themes, then a narrative expansion as the themes are explained and illustrated with verbatim extracts from the transcripts.

### **5. The LEX Method**

#### **5.1. Preparation and sampling**

The initial list of contacts which the scoping team provided was supplemented with others from the Pedagogy Experts group and LEX team members. These were reviewed with the intention of maintaining a balance between HE, FE and ACL contexts from across the UK, and of ensuring a representative sample of different e-learning approaches.

The project was aware that tutor willingness to encourage their learners' involvement in the study would be crucial, and this turned out to be readily obtained. Letters of confirmation were sent to senior people in each organisation to ensure participation was visible and acknowledged. The project made clear that the intention was not to review particular courses, but to elicit learner views on the wider impact of technology on their learning. Tutor input was also valuable in providing background information about the use of e-learning in their courses, helping to identify suitable learners for interview, and arranging appropriate venues. Tutors helped with the identification of learning artefacts for use during interviews and in granting access to online discussion forums and other course resources.

From these initial contacts, the project identified a shortlist for correspondence, then communicated with tutors to identify individuals and groups of learners for interview. At the stage of deciding on a sample the project regarded it as a priority to capture a balance of ages, gender, educational levels and previous e-learning experience, and crucially, participation in a blended learning course from one of the three sectors. Individual learners were contacted directly to arrange dates, times and interview venues, and to request the completion of learner profiles and consent forms (appendices 4 & 5). National book tokens were offered as an incentive to all learners who took part. Following the advice in the scoping study, timing was seen as crucial: too early in the academic year and learners have not had any real exposure to e-learning; too late and they are busy with final assignments and exams. Table 1

below outlines the total number of interviews and focus groups conducted.

**Table 1**

	<b>Total Number</b>
<b>Focus groups</b>	6
<b>Individual interviews</b>	22
<b>Learners involved</b>	55
<b>Institutions involved</b>	9 (3 HE, 4 FE, 2 ACL)

The full profile of the 55 participants is given in the final LEX report. The full sampling data is provided in Appendix 6.

Three points about the sampling should be made in retrospect.

- First, the practical aspects of the gaining access to a suitable sample took much longer than expected. The need to arrange face-to-face interviews, rather than by telephone or online, represented a real difficulty. Even with excellent cooperation from tutors, the issue raised in the scoping study concerning the difficulties of recruiting subjects was a real one for LEX.
- Second, the sample was too large. This is a mistake made by many studies first using IPA analysis, underestimating the resource intensive nature of the method. With hindsight, it was a mistake to adopt IPA without also re-negotiating with the funders the size of the sample. Many IPA projects finish up unable to complete the full analysis.
- Third, the selection of the sample was a compromise. There was a desire to cover a full range of categories of learner in the sample, and insufficient resource was devoted to targeting participants who would be 'living' the topic of interest (e-learning). This raises the interesting question of what the study was really aiming to describe when it referred to the student experience of e-learning. It may be the case that by being too general - by regarding any student who was experiencing their course by some use of technology as a suitable case - we were losing some of the focus that IPA needs if it is to provide key insights into the learner's perspective.

## **5.2. Training workshops**

One of the originators of IPA, Dr Paul Flowers, a psychologist at Glasgow Caledonian, was invited to deliver three half-day workshops for the LEX team on IPA. These were delivered in November 2006. They allowed detailed discussion of the assumptions behind the approach, and provided valuable role-play experience of interviewing and practice in the analysis of transcripts and the identification of themes. Any project team considering this approach would be well advised to build similar training into the project plan. There is no doubt that the LEX researchers became more confident and skilled in both the interviewing and the analysis as the project proceeded, and the workshops provided an important contribution to this.

### **5.3. Interviews and focus groups**

There was initial concern in the project team about whether the IPA approach would be effective in a context in which the study might be regarded as an evaluation exercise – whether of courses, technology, tutors, or even the students themselves. Despite the project's efforts to explain that this was not an evaluation interview (or focus group) there was a real possibility that interviewees would be reluctant to engage at the level necessary for the method to work. The LEX team were advised that learners may be unwilling to give or talk about their views and that this could cause difficulties for the project. These concerns turned out to be largely unfounded. It became clear that learners were ready and willing to talk about their experiences of learning, technology and life and that any initial hesitation can be overcome with an appropriate IPA interviewing approach. The use of 'interview plus' also helped. Learners from all the sectors visited were forthcoming, articulate and often frank about their experience and views. It provided a positive evaluation of the method to be able to reveal that learners are indeed experts on their own experience.

### **5.4. The interview-plus artefacts**

Learning artefacts were used whenever it seemed practical during the individual interviews-plus. The artefacts ranged from online resources such as learning logs or course materials which the interviewees had been using, to online discussion boards and video lectures. Some interviewees were asked to keep a reflective blog on their use of technology for two weeks before attending the interview. The interviews then used these reflections to focus the discussion. In another case, a discussion forum was created specifically to encourage reflection among the participants in an online course which not only allowed the introduction of the topic in an informal way, but also helped to identify suitable candidates for interview. Where interviews took place in a learning centre, the venue itself and the technical provision within it often proved to be a useful starting point.

The artefact worked well to initiate discussion in some cases, but in those cases where a subject was talking at an appropriate level from the start of the interview then the interviewer would not necessarily turn the discussion onto the artefact. There was the possibility that the artefact would narrow the focus of the discussion. The team concluded that the artefact should be considered in the same way as a question on the schedule for an IPA interview: to be used if judged appropriate at a particular point in the dialogue.

### **5.5. Data Analysis**

LEX followed the method described in Section 4 above for analysing the transcripts. The project team adopted a collaborative approach to the analysis, with three of the team members carefully extracting the exploratory codes and emerging themes for groups of three or four transcripts at a time, then passing them on to the fourth team member for cross-validation and synthesis. This was done in rotation, with each member of the team having the opportunity to analyse the group level themes and to contribute to the higher level superordinate themes. Learner quotes which illustrated these themes were also highlighted during this process, and short audio clips were prepared of some of the more interesting quotes.

One unanticipated issue concerned the loss of some potentially valuable data through the transcription process. 'Listening to the learners' voice' should be taken literally. As the full LEX report mentions, there were topics that revealed heightened emphasis through the interviewees' tone of voice (particularly when describing their choices over technologies, learning environments and approaches to study), and this information is lost when translating from audio to text. In principle it is possible to annotate the digital recording to make a classification of emotional tone revealed through voice quality. This point will become a recommendation for future work with IPA.

#### 5.6. Summary and presentation of the themes

Considerable discussion went into the decision about how to present the outcomes of the analysis. The scale of the study is very broad and the super-ordinate themes can be unpacked into many lower-order themes, each of which itself is capable of more detailed analysis. It is the case that the study has produced such a large and rich dataset that the analysis could continue for much longer than the resources for this project would allow.

The project team debated how to capture the big picture while not losing sight of the need to convey the complexity of the lower-order themes. It was agreed that the learner perspective would be maintained by focusing on two main questions:

- What factors influence what I do with my learning?
- What factors influence how I feel about my learning?

This led to the creation of a series of five high level categories relating to life, formal learning, technology, people, and time, within which a further five dimensions encompassing the main influencing factors are situated, i.e.

- control
- identity
- feelings
- relationships
- abilities

Each of the intersections represents a lower-order theme that can be illuminated by further reference to the learners' own words. The grid below provides an example of the framework with a sample quote to illustrate each theme. A more comprehensive version of this as a concept map, which includes a much wider range of quotes, is provided as Appendix 8 of the main report.

	Control	Identity	Feelings	Relationships	Abilities
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Technology	<p>It's the same way with learning to use computers and software packages... It tends to be very hands-on and people like to just touch it and feel it and experience it and it's like a friend of mine bought a new phone last week and she spent the entire day she got the phone just exploring it, do you know, working out how everything works and what way you want it to work for you. It's very much an interactive touchy-feely thing.</p>	<p>I'm beginning to rely less and less on other people showing me what to do, instead of being afraid of technology on the computer, I'm beginning to learn well its not as bad as it seems, take your time, if you make a mistake it doesn't matter just do it again.</p>	<p>Because to me a ... design is a creation like a painting or you know, drawing and if I did it on the computer it would sort of lose, I think it would look too clinical.</p>	<p>...so my [group] we always text each other and say oh are you coming in at this time or we'll meet at this time and so it looks on the face of it from the university website that we haven't been communicating all year but we have, it's just outside of that board...</p>	<p>You get a wee boost the first time you do something, you get a 'oh right, I've done that myself' and then you get that wee confidence boost and you'll go to the next step, you know. The first time you kind of hit a brick wall you kind of, you know, I did it too and you go 'aargh' but when you do it the first time you think 'I done that' and then move onto the next thing, it's definitely worth it.</p>
Life	<p>The only bad thing I've got is if I'm sitting on the computer guaranteed the kids want on it and then they're like oh can I get on, can I get on so in the end I just get up and leave it and let them go on it</p>	<p>I figured it out and taught me dad, which generally what I do is personally I just like I prefer to figure things out and because that's just one of me interests and it's the kind of person I am.</p>	<p>[The learning log] does change the way you think about things and it made you, I guess you were asking me about time issues, it did make you take time out to think more about just the world in general...</p>	<p>My mum erm and one of our other colleagues they also come learning here as well and sometimes we do all come at the same time so we do find it that we help each other.</p>	<p>Me, I personally erm enjoy the fact that we get to use computers because I enjoy working on computers and I'm always on the computer anyway, I've got a laptop and I'm always on the laptop anyway so it's, it's, it's just part of every day life for me.</p>
People	<p>You can also if you want, have a discussion like over [the VLE] but I tend not to use it because well the teachers take a while to get back and it's not very personal cos everyone can read what you write</p>	<p>Mobile phones again another way of communicating because everyone has a mobile phone on them. Erm both, a mixture of both [text &amp; voice], me texting's a bit lousy so I don't text back straight away so I'd rather just ring people... Me girlfriend has a go at me for that as well, it takes me like three hours to text back so I use like mobile phone conversations.</p>	<p>I haven't found this a positive experience ...I didn't feel that posting things on discussion boards that we got the feedback, people weren't feeding back like they do in a classroom.</p>	<p>... somebody would know how to do one thing and someone else would know how to do something else, you know, so you're kind of getting people, different people, yes and you were kind of pulling in anybody else's, everybody else's expertise or what little knowledge they had or, you know, they maybe only knew one thing and you knew another and you were able to swap and share.</p>	<p>...when I woke up this morning phone call nine o'clock cos someone were stuck with sommat on his iPod and I helped him and I've been helping someone with one of their memory sticks, they got a bit stuck on it so...</p>

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Formal learning</p>	<p>Technology makes it a lot easier for me to learn, if I didn't have access to the internet I think I wouldn't be at the point where I've been able to pass some subjects, just, I don't know if I didn't have technology I think essays and things would seem like a big challenge and giant challenges I'm more likely to put off till the last minute and then panic over, so technology makes things seem a lot simpler, I'm more willing to give it my time, to get through them because it just seems like oh ten minutes that'll be fine...</p>	<p>Erm the learning log is ... that's where you use the internet to, it's like an internet diary of yourself and your own learning experience and the journey you've took through that process.</p>	<p>Well I mostly enjoy it. I think learning should be enjoyable. Just there's lots of different ways of learning, it's quite hard to define learning. Just do like reading something or you can learn like doing things.</p>	<p>I enjoy mixtures really of both group work and individual work ... I think it's good because it improves your team work, oral communications, whereas if you're doing work on your own it's just yourself and your own opinions.</p>	<p>I think learning for me in this particular course that I'm doing is just kind of reinforcing what I'm doing in my work practice, it's taking it that step further and there's quite a bit of theory that's behind the practical.</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Time</p>	<p>... we get to work through that at our own pace and it's all on the web page at the college. It's good that everything's on there so I can access it from home, I can access it from work, I can access it in here...</p>	<p>But personally if the group is on 8 and I'm only on 6, I'd rather be on 8 and whether that's because I'd been away or because I couldn't get online or whatever, I'll then go and put the extra time in so that I catch up.</p>	<p>Well I suppose I'm a mother of three and I work as well and I'm doing the course part time so I do find it quite challenging at times, you know and you've three assignments three weeks in a row like the pressure's on, you know.</p>	<p>I come along here one day a week. It's quite hard... Erm when I was at university I was single, stayed myself, found it quite easy to find time to get the work done. Now three years down the line I'm married with a boy of four years old and I find it quite hard to find the time to sit and do course work erm, other than actually getting out the house, going to a library, it's hard to sit in front of my computer.</p>	<p>Yes, yes, the more time you can put in the more you will get out of it.</p>
	<p style="text-align: center;"><b>Control</b></p>	<p style="text-align: center;"><b>Identity</b></p>	<p style="text-align: center;"><b>Feelings</b></p>	<p style="text-align: center;"><b>Relationships</b></p>	<p style="text-align: center;"><b>Abilities</b></p>

## 6. Summary guidelines<sup>1</sup> for the use of IPA in technology-enhanced learning projects

### 6.1. Choosing IPA

- IPA is appropriate when the research has a distinctly psychological focus: where the investigation is aimed at illuminating ways of thinking, feeling and understanding. It is an appropriate method to use to capture the learner's perspective.
- IPA might be chosen as a method to harness 'expertise' from participants, e.g. novel subject areas, service user perspectives, process evaluation.
- IPA excels at exploratory, descriptive research.

<sup>1</sup> Thanks to Paul Flowers for permission to reproduce many of the points from his workshop presentations.

- IPA is good for theoretical development, particularly in gaining new understanding about affective and belief domains.
- IPA is good at elicitation research for future quantitative work.
- IPA is poor at comparative analysis (eg comparing subsets of participants) or outcome evaluation.

### **6.2. Specifying the Research Questions**

- Research questions should reflect the exploratory nature of IPA. As an inductive approach, the research team cannot pre-specify the details of the project before analysis, only locate the sample and an area for exploration.
- Research questions would typically be expressed in the form: 'Understanding the experiences of...'; 'Exploring the perspective of...'

### **6.3. Sampling, Access and Recruitment**

- The perspective sought in interviewing can be holistic (ie the interview would try to understand how the aspect of research interest has meaning in the context of the participant's entire life) but the participants should be selected for their characteristic representation of the phenomenon under investigation, (eg the participants are all bloggers). It is best to aim for a homogeneous sample within sample parameters.
- Participants should all be 'living' the key issue (eg blogging) and be able to articulate their expertise.
- Do not underestimate the difficulty of recruiting suitable participants. A project should devote a substantial proportion of its resources to recruitment and administration.
- Do not aim to interview too many participants. The average sample size for published IPA studies is 10. It is perfectly possible to carry out a viable project with a single case. Choosing too large a sample is the most common pitfall for IPA studies.

### **6.4. Design interview schedule/topic guide**

- Focus upon the division of questions across schedule: limited factual, demographic ones first.
- Decide areas to probe. Develop phrasing of questions. These must encourage reflection and be open ended. Avoid questions that encourage closure of a topic.

### **6.5. Establishing the interview context**

- Cover ethical issues at beginning of interview. Informed consent may change as the interview progresses.
- State that the interview usually lasts about an hour, but can be shorter or longer if the participant wishes.
- Clarify the purpose of the research. Emphasise that there are no right or wrong answers. State that the focus of interest is an understanding of them and their experiences.
- State that the interview is like a rather one-sided chat and that you as interviewer may say very little.

- State that some of your (the interviewer's) questions may make you sound 'stupid' but this is because you are trying to get to grips with how *they* understand things and not how you do.

#### **6.6. Interviewing**

- The interviewer must know the schedule inside out.
- The interviewer's job is to find out how the participant thinks about his/her own experiences.
- Use the first key question to open up the interview. Choose this with great care: it sets the tone for the rest of the interview.
- Always follow interesting avenues.
- Do not be afraid of silence.
- Use differences in participant/interviewer as possible tool to open up the participant's personal perceptions.
- Listen actively. Maintain eye contact.
- Always ask for feedback about the interview at the end.
- Key questions throughout interview: Why? How? Can you tell me more about that? What were you thinking? How did you feel?

#### **6.7. Interview rhythm**

- Within the interview there will be a rhythm which structures the flow of the interview.
- At the beginning there will be condensed meanings, narratives and understandings.
- Reflect back, summarise, check meanings.
- As the interview progresses the participant learns that the interviewer continually asks for more detail, then starts to provide it without being asked.
- The work the interviewer must do gets easier as the interview progresses (the number of points that the interviewer must return to gets fewer).
- Exposing the obvious. *"It takes a lot of self-discipline, writing a daily blog". "Why does it take a lot of self-discipline?" "Well it gets like I feel I've let people down if they don't see I've taken the trouble to write something on a particular day. It makes me feel quite good about myself that I can keep this up."* (Opening up a line about feelings and identity..)

#### **6.8. Potential problems for the participant**

- Participants may struggle with the level of their account – they may talk of the issues in the abstract, or refer to the experiences of other people.
- The interviewer must remind a participant that the interview is about them and their understanding and experiences.
- If participants show signs of being quite uncomfortable then the interviewer should terminate the interview.

#### **6.9. Potential problems for the interviewer**

- The interviewer may feel overwhelmed with the complexity of the account, and the sheer number of issues to return to.
- Beware of becoming too revealing of your own interest in the topic. Do not lead.
- IPA interviewing is a skill, and like any other it needs practice. The project team should role-play before interviewing for real.

- All potential interviewers should transcribe a pilot interview and critique their own interview technique. The ideal follow-up question should be written down after each response.

**6.10. Analysis: Exploratory coding**

- Write something for each line of transcript in the left-hand margin.
- Highlight key objects, events, experiences in participant's lifeworld.
- Move to stage of conceptual and interrogative coding: beyond the words at face value.
- At times exploratory coding may feel to the analyst like overstretching the possible interpretations. Making these provisional conceptual leaps adds depth to the process, but the analyst needs to keep returning to the actual transcript.

**6.11. Analysis: Emergent themes**

- Move away from line by line coding towards reducing the complexity of the exploratory codes. Central role of analyst in reducing complexity now becomes apparent.
- Try to map the connections and patterns between exploratory codes.
- Identify emergent themes – process of abstraction and categorisation. Now divorcing the participants' thinking from its original experiential focus and putting 'like with like'.
- Connect exploratory codes through
  - polarisation (cluster opposites)
  - subsumption (superordinate categories start to embrace other exploratory codes)
  - imposition (organising categories introduced from existing theory)
- Use the right hand margin to write key word or phrase to identify emergent theme
- Create a table of emergent themes.

**6.12. Analysis: Recurrent themes**

- Repeat exploratory analysis with each transcript
- Repeat emergent thematic analysis with each transcript
- Analytic process builds across transcripts

**6.13. Analysis: Patterns and connections between recurrent themes**

- Consider how the emergent themes inter-relate.
- Attempt a visual representation of patterns.
- Finally, write a narrative that expands the visual representation and relates the whole to theory.

## **7. Specific Recommendations for the use of IPA in the Learner Experience Programme**

The points made in section 6 are relevant to research projects in the learner experience programme. Additionally there are some specific points

- 7.1. The LEX project has confirmed that IPA offers a potentially valuable methodological option for research which aims to achieve insight into the ways of thinking, feeling and understanding that e-learners experience. The

project has also come to the view that IPA is an appropriate choice for research that aims at theoretical development, since the attempt to identify and inter-relate emergent themes facilitates the process of theorisation, particularly in areas that are traditionally under-theorised in e-learning, namely in the affective and attitudinal domains.

- 7.2. If IPA is to be adopted then the research questions must be exploratory in nature, rather than testing specific hypotheses. The method encourages a focus on understanding how the kind of e-learning to be explored acquires meaning in the context of the participant's holistic life experience. The method is therefore potentially powerful for exploring the e-learner's fundamental approach and motivation.

### 7.3. Purposive sampling

IPA involves purposive sampling, rather than random sampling or comparison groups. Purposive sampling is popular in qualitative research, and is assumed for IPA, but it raises some issues for e-learning projects, dependent on the kind of purposive sampling adopted. Some versions (see Patton, 1990) that might be relevant to the programme are:

- 7.3.1. **Choosing extreme cases** - Learning from highly unusual manifestations of the phenomenon of interest. If the purpose is to understand how blogging, say, is experienced from the point of view of the blogger then the researchers might identify someone<sup>2</sup> who represents an extreme example of sustained high quality and influential blogging.
- 7.3.2. **Choosing information-rich cases** that manifest the phenomenon, but not extremely, such as influential bloggers/non-influential bloggers. This was the kind of purposive sampling adopted by LEX, where tutors were asked to identify cases of effective e-learners from their courses.
- 7.3.3. **Choosing on the basis of variation** - A project can sample purposefully by deliberately picking a wide range of variation so that the research can identify important patterns. Here one might, for example, intend to recruit e-learners who varied in their use of social software outside a formal e-learning course, sampling across the entire range from those who made no use of such tools to those who were highly advanced in such use. However, this would not be the kind of purposive sampling for which IPA would be regarded as appropriate. On the contrary, for IPA it would be usual to choose a sample to *reduce* variation so that the analysis can be simplified. This would also allow a focus-group approach to interviewing.
- 7.3.4. **Choosing on the basis of a criterion** - Selecting all cases that meet some criterion, such as all e-learners who have started a blog and then discontinued it.

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<sup>2</sup> A good current example would be Stephen Downes (Stephen@downes.ca)

#### **7.4. Lessons about sampling from LEX**

The LEX project was designed to explore the experiences of effective e-learners. Initially the sample was drawn from students who were identified by their tutors as best fitting that description. However, this approach highlighted the importance of adopting a clear description of the phenomenon to explore at the outset. At times in LEX the notion of 'effective e-learning' became fuzzy. The cases selected were effective e-learners but it was often very difficult to distinguish effective e-learning behaviour from effective learning in general. The research team were able to achieve a more targeted sampling when they themselves used the focus groups to identify students who were distinguished by their particular effectiveness as e-learners. However, there is a balance to be struck here: between the desire to sample as purposively as possible, and the need to keep the research question fairly open and exploratory.

#### **7.5. Using IPA in collaborative analysis**

LEX developed a collaborative approach to the analysis of the transcripts. A possibly valuable extension of this approach would be to involve the interviewees themselves in a kind of validity check of the high-level conclusions. This would represent an interesting further stage of the IPA procedure, where interviewees are invited to engage in dialogue about the outcomes of the analysis. Of course, IPA involves not just a summary of the learners' voice, but an interpretation which involves a significant input from the researchers, so a failure to achieve mutual understanding and agreement may not necessarily invalidate the analysis. It would, however, serve as a further source of data.

## References

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## Appendices

### Appendix 1 - Interview Schedule

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#### LEX Interview Schedule

*(Use for interviewer guidance only)*

Can you tell me what learning means to you?  
*(e.g. challenging, enjoyable, informal, formal,)*

What's important to you about learning?  
*(e.g. personal satisfaction, qualifications, career, skills)*

When someone asks, how do you describe how you're learning?

Tell me what you think about using technology for learning?

Tell me how using technology has affected how you learn.  
*(e.g. finding information, communication, time and place of study etc. Positive & negative examples?)*

Tell me how you feel about trying out new kinds of technologies?  
*(confidence levels, overcoming problems)*

Tell me about your use of technology in your everyday life.

*(Move on to artefact at this stage and follow up some of these points in more detail)*

Final question:

Would you describe yourself as an effective learner? Why? Why not?

## Appendix 2 - Focus Group Interview Schedule

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### LEX Focus Group

#### Agenda

(Before session starts, fill out permission forms and learner profiles)

1. Welcome and introduction to the project (5 mins)
2. Paired introductions (10 mins)
3. Main session questions (Use for interviewer guidance only)

#### Question1

- What's good about using technology to learn?

#### Question 2

- What's bad about using technology to learn?

#### Question 3

- How does it compare with traditional learning?

#### Question 4

- How do you fit learning into your life? Does technology help or not?

Question 5

- If you could change one thing about your learning what would it be?

Any final thoughts?

End session, give out book tokens, take photos.

## Appendix 3 - Organisational letter

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### LEX

Dear \*\*\*\*\*

#### **LEX project –the learner experience of e-learning (JISC)**

Thank you for your interest in the LEX project. We greatly appreciate the support of your institution for this new area of e-learning research.

This letter explains the background to the project. Further details of the project can be found at [http://www.jisc.ac.uk/elp\\_lex.html](http://www.jisc.ac.uk/elp_lex.html).

Under its 'E-Learning and Pedagogy' programme JISC is funding a national research study into how learners experience e-learning. The research is being carried out by Glasgow Caledonian University and the Open Learning Partnership and covers all post 16 education sectors and all four UK countries. The research is not an evaluation study and will not examine the effectiveness of any course materials or support and tutoring systems. The emphasis in the research is entirely on how learners view the use of technology in their experience of learning, and how this may compare for example to their use of technology in everyday life.

In the research reports we will acknowledge the valuable contribution made by organisations whose learners are participating in the study. All learners will be asked to sign a permission statement authorising their views to be quoted, or withholding such authorisation.

If you need to contact us about the project our email addresses are shown below

Yours sincerely

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## **Appendix 4 - Learner Profile**

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### **LEX**

Please select an answer for each category. For some questions you can choose more than one answer.

<b>Gender</b> <i>LEX Methodology Report, Setember 2006</i> <input type="checkbox"/> Female <input type="checkbox"/> Male	<b>Age Band</b> <input type="checkbox"/> 16-24 <input type="checkbox"/> 25-34 <input type="checkbox"/> 35-54 <input type="checkbox"/> 55-64 <input type="checkbox"/> 65+	<b>First Language</b> <input type="checkbox"/> English <input type="checkbox"/> Welsh <input type="checkbox"/> Other language (please state)
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**Your age when you left full time education**

16 or under  
 17-19  
 20-24  
 25+  
 Still in full time education

**Employment**

Employed full time – 30 hours+  
 Employed part time  
 Not employed but seeking employment  
 Not employed and not seeking employment

**Education**

a. I am in -

Full time education  
 Part time education  
 Not in education

b. I am educated to –

School level  
 Further Education level  
 Higher Education level  
 Postgraduate level

**Computer use**

a. Do you use a computer-

At home?  
 At work?  
 In a college, university or learning centre?  
 Elsewhere (please state)



b. How often do you normally use a computer?

- Every day
- Every week
- Occasionally
- Never

c. How would you describe your computer skills?

- Expert user
- Confident user
- Partly confident user
- Unconfident user
- Non-user

d. How often do you normally use the internet or email?

- Every day
- Every week
- Occasionally
- Never

### **Technology**

Which of these products do you use frequently?

- mobile phone
- handheld computer (e.g. PDA, Blackberry, Palmtop)
- laptop computer
- digital camera
- scanner
- other (please state)

### **Learning technology**

Before this course, have you had experience of any of the following as part of your learning activities? (you may choose more than one)

- A course delivered completely online
- A course delivered partly online + face-to-face sessions
- Electronic whiteboard
- Course materials on computer
- Computer based assessments or tests
- Online discussion board
- Using video and audio files
- Videoconferencing<sup>30</sup>
- Email
- Learning with mobile devices (e.g. mobile phone, PDA)
- No, this is my first experience of using technology for learning
- Other technologies (please state)

## Appendix 5 - Consent form

All participants were required to complete this form.

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### LEX

#### Interview permission statement

\_\_\_\_\_ has told me about the LEX project which is researching the views of learners about their use of technology in learning. I give permission for my views to be recorded and to be used in publications from the research study, and I understand that they will not be used for any other purposes.

When my statements are quoted in the research papers I would like (circle one):

- to be quoted by name
- to be quoted with a pseudonym, rather than my real name
- to be quoted anonymously

This permission includes use of (circle all that apply):

- quoted words
- voice recording

- photograph

Signed

Name

Date

## Appendix 6 - Details of sampling

- Focus groups and interviews
- Participating Institutions

### Interviews and Focus groups carried out

Course /institution/ learners	Mode of learning/ICT	Artefact used	How learner was chosen
Adult part time learners on TUC union representatives course - 3 interviews	Fully online, no face to face elements. UK - wide course	Reflective discussion forum for all learners	Discussion with tutor regarding effective learners plus our own judgment from learner participation in online forum.
Adult part time work based and community learners - 2 focus groups	Personalised learning, drop-in access to centre, online tests	Focus group - N/A	Focus group was advertised in learning centres. Tutors from centres worked with us to organise.
Adult part time learner in hospital learning centre - 1 interview	Personalised learning, online tests in literacy	Learning centre environment	Selected by us after a focus group. 1 learner was selected for follow up interview. A few volunteered and the interviewee was chosen on the range of subjects studied and the fact that she had done online examinations.
Adult ESOL learners - 1 focus group	Classroom and study visit use of tablet PCs for language development	Focus group - N/A	Focus group was advertised to ESOL class. Tutors from college worked with us to organise.
Adult ESOL learners - 2 interviews	Classroom and study visit use of tablet PCs for language development	Tablet PC and learning materials	Selected by us after a focus group. Selected mainly on the basis of how good their English was and tutor recommendation
FE College - mixed group of full/part time learners in a variety of curriculum areas - 1 focus group (10). BTech Hospitality supervision, HNC Estate management, HND French	Mixed ICT classroom and online support	Focus group - N/A	Tutors identified students for their use of technology,, range of ages, range of curriculum areas.

FE College – 3 interviews (BTech Hospitality supervision, HNC Estate management, HND French)	Mixed ICT classroom and online support	Institutional website as gateway, VLE (Blackboard) materials and discussion fora, Internet, Athens.	We identified from the focus group those whom we felt had something interesting to say and appeared to be ‘effective’. 3 out of 4 invited attended.
HE University - First year Economics and Marketing. Full time. Mixed ages. 4 interviews.	Campus based, lecturers use rich mix of media and the VLE.	Prior to interviews students kept a blog on use of technology for two weeks. These were then used as the artefact.	Class of 500. A new cohort so students new to the tutor, therefore we asked for volunteers. 8 responded, 6 attempted to keep the blog. Of those 1 dropped out and 1 didn’t turn up for interview. Interviewed remaining (4), as all from their blogs appeared to use technologies effectively.
HE University - PG Diploma Law students (Have already completed 4 year law degree). Full time. Mixed ages. 4 interviews.	Online, multimedia, video lectures & tutorial based.	Bespoke ‘Virtual community’ environment in which students posted messages, used calendars and engaged in group work, plus online videos of lectures.	Discussed with tutor who recommended asking for volunteers through the department . Interviewees were self-selecting in this case. As the whole course makes use of technologies all students had experience in using them.
FE college consortium, SFC BlendEd project. HNC Social Care learners were full time care workers on a day release course. 1 focus group	Mixed ICT classroom and online support . Uses learning objects developed as part of the transformational BlendEd project. Will inform SFC project evaluation	Focus group - N/A	Tutor chose students for focus group, though the students new in the door. For many of these learners, it is their first experience of formal education since leaving school.
FE college consortium - 2 interviews.		BlendEd learning objects, including activities and discussion fora	Interviewees chose for availability and a mix of age and experience.
HE University – UG Business Administration students - 3 interviews	Mixed mode programme with extensive use of e-portfolios / learning logs	Learning Logs	Tutor identified several students on the basis of their effectiveness as learners. We then contacted them directly and followed up students who agreed to take part.
FE College students undertaking HNC courses on Customer Care and Economics. Focus group.	Blended learning with integration of classroom teaching with online activities.	Focus group - N/A	Focus group invitation issued to learners on these two courses following discussion with tutors on suitable learners to target.