

# Enquiry-based learning

A resource for Higher Education



The Learning to Learn  
through supported enquiry  
project

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An ESCalate Publication

# **LEARNING TO LEARN THROUGH Supported ENQUIRY PROJECT**

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# About the Project

## Background/Rationale of the project

The project, which began in early 2005, has promoted innovation in educational practice through supported enquiry-based learning (EBL). It was based on established postgraduate practices at the University of Surrey and sought to support related developments in undergraduate programmes. Initially, the project sought to embed 'learning to learn' in five programmes at Surrey. We used an enquiry-based approach to change, by working together with course teams to support locally-owned developments. The project aimed to create educational innovation through incremental change.

'Learning to learn' is a significant and valuable potential output from supported EBL. This involves expanding capacities to think about how we as individuals learn; exploring beliefs and attitudes towards learning that provide an intrinsic source of motivation; and developing skills of learning and acting that make use of one's knowledge about self. These qualities contribute to capacities for professional action, leadership and entrepreneurship.

The project has had many benefits for students and for staff, with information being disseminated through The University of Surrey learning & teaching events. To create national impact the project has participated in the Learning through Enquiry Alliance network, has hosted resources on relevant Higher Education Academy websites, and participated in national conferences and development events.



*The thing that sticks in my head about this module is the [Module Tutor saying] ... that we should question how we approach knowledge. For the last three years we were being told that this is black and this is white and this is what you're going to learn. Who's to say that is right? Because that is one person's interpretation ... Through [enquiry] modes of learning you question what you perceive knowledge to be.*

(Business Management Student studying Organisational Change Module)



# Project Overview



*When I started [using EBL], I thought this is really good, this is what I always imagined university education was about* (Module Tutor)



## **Aims/Goals/Objectives**

This project aims to seek out examples of existing creative and dynamic teaching at the University of Surrey and then collaboratively, using an EBL approach, to further develop the ways in which students are encouraged to enquire, thus supporting them as they 'learn to learn'.

The aims of this project are:

- to improve student learning by deepening the learning experience to emphasise intentional 'learning to learn', so enabling students to become self-directed learners.
- to support staff as they evolve conceptions and practices in teaching and learning that are enquiry-based, and to map lines of development between current and more enquiry-based practice.
- to enhance knowledge of how to transfer educational developments through an evolutionary approach to introducing enquiry processes.

## **What is FDTL?**

The Fund for the Development of Teaching and Learning (FDTL) was established in 1995 to support projects aimed at stimulating developments in teaching and learning in higher education and to encourage the dissemination of good teaching and learning practice across the higher education sector.

Bids for FDTL funding were invited from higher education institutions that demonstrated high quality in their educational provision, as judged by the teaching quality assessment exercise. Since 1995, the Fund has supported 164 projects throughout Higher Education Funding Council for England (HEFCE)-funded institutions.

The final phase of FDTL projects has started and no FDTL funding is available for new projects. FDTL is funded by the HEFCE and the Department for Employment and Learning (DEL).

## enquiry-based learning

### What is Enquiry Based Learning (EBL)?

EBL is an emergent field and concept. Discourses of EBL appear nationally and internationally.

Enquiry based learning is understood in many different ways. We developed our own working definition for the purposes of this project: 'EBL is a process of learning in which the learner has a significant influence on or choice about the aim, scope, or topic of their learning: and attends intentionally to, learns about, and is guided or supported in, the process of learning. This process of learning draws upon research skills and study skills, but enquiry is not reducible to either research or study.'

The broad intent of enquiry-based learning is to enable the learner to develop transferable skills of enquiry, which are most relevant in any context (especially professional and workplace contexts) where the capacity to construct knowledge and to act within conditions of complexity is important.

Ideally the process of enquiry involves and develops the whole person (i.e. is not limited to cognition) and offers opportunities for creativity. The quality of the student's learning about learning is rewarded through formal assessment.

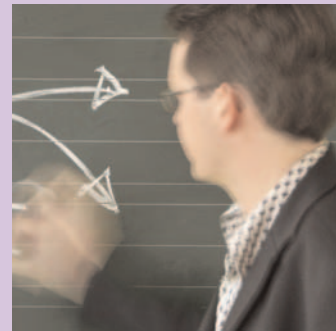
Teaching in relation to EBL is likely to emphasize the creation of conditions conducive to enquiry; acknowledging and valuing enquiry in programme structures (e.g. including learning outcomes and assessment strategies); informing learners of the nature of enquiry and related skills, providing training and guidance where appropriate; and using skills of facilitation to guide and enhance learners during the process of enquiry.

A supported EBL approach enables students to undertake individual and collaborative enquiry into problems that do not have simple or unique solutions and assists them in formulating questions to understand the complexity of issues and their contexts. These professional transferable skills of enquiry are much in demand in the 21st century economy, and are linked to growing interest in higher education in research-based teaching.

We commissioned a review of EBL literature as part of this project, 'Learning to Learn through Supported Enquiry: a Literature review', by Dr Rhona Sharpe (Oxford Brookes University) and Professor Maggi Savin-Baden (Coventry University), which is included as part of this resource.



*Nobody can be expected to know everything about everything all of the time - and as long as you know where to go and get that information from ...it's actually OK to say no, rather than try and bluff your way through and get it completely wrong. It's OK if you say no you don't know - but you know how to find out ... with confidence. Because when you're newly qualified you want to save the world and make everybody better don't you? (Facilitator Applied Dietetics Module)*



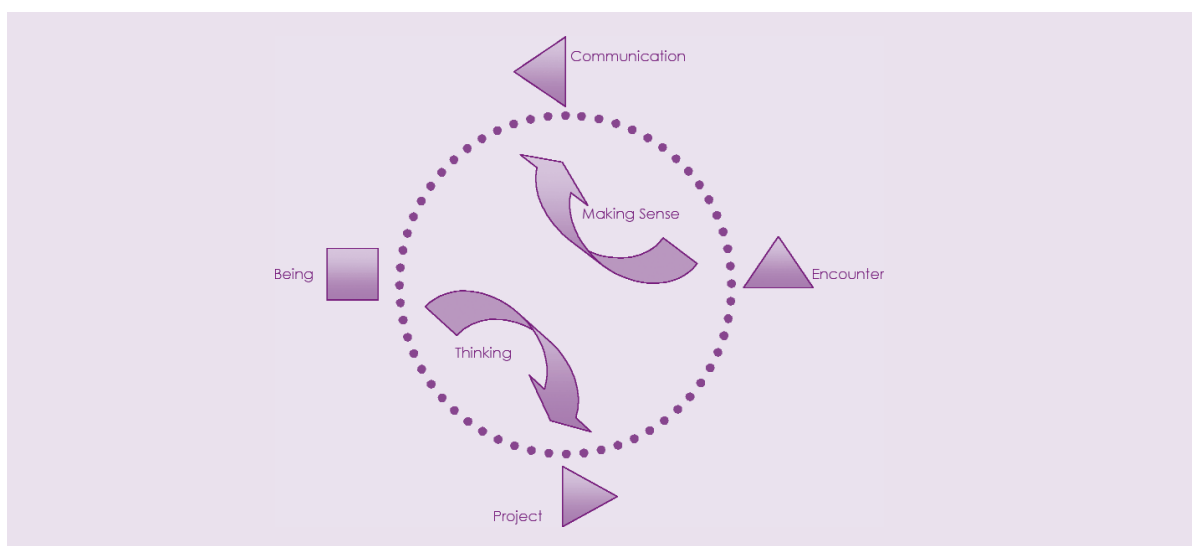
Enquiry Based Learning is used in different ways across higher education programmes. We have identified two tools or heuristics that can be used to assess the “EBL-ness” of any particular model or event

1. a generic cycle of enquiry (based on John Rowan's work)
2. eight characteristics of enquiry based learning (developed by Tosey & McDonnell).

These heuristics are described further in the paper on the CD, 'Mapping EBL'.

### **A Generic Cycle of Enquiry**

*(adapted from John Rowan, 'A Dialectical Paradigm for Research', in Reason, P. and Rowan., R. 'Human Inquiry', John Wiley & Son, 1981 p. 98. Copyright John Wiley & Sons Limited. Reproduced with permission).*



## enquiry-based learning

# Eight Characteristic of Enquiry Based Learning

(nb: L refers to the learner and T, to the tutor)

Characteristic	Description	Research note
<b>C</b> onception of learning	EBL is predicated on a particular conception of learning that makes different assumptions about the nature of learning and learners, from transmission-based teaching.	See Comrie, A. at <a href="http://www.som.surrey.ac.uk/learningtolearn/Resources.asp">http://www.som.surrey.ac.uk/learningtolearn/Resources.asp</a>
<b>H</b> olistic (head, heart, hands)	L is involved as a whole person, not just as a 'brain'. The learning design enables emotional engagement (heart) and practical engagement (hands) as well as cognition (head).	There is increasing advocacy for notions such 'emotional intelligence' (Goleman 1996).
<b>E</b> ngagement - alienation	L has influence on/choices about learning in each phase of the cycle, especially in the being-thinking-project phase. EG L might be invited to enquire into the value of a question or activity, and to change it.	Rowan's concern with alienation in research links to Mann's critique of the surface-deep learning concept (Mann 2001).
<b>R</b> elational	The extent to which learning is relational rather than individual, e.g. learning through interaction between staff-student, student-student, student-external, etc.	Dewey argued that learning is inherently relational and social. Epistemologically, this is congruent with (Bateson 1973). It also links to contemporary thinking about communities of enquiry/practice (Wenger 1999)
<b>R</b> esource and environment matched	Resources (time, space, access to materials, opportunities, staff time, etc.) and the design of the learning environment are appropriate for the type and extent of intended enquiry. Resources are of course finite, thus T's creativity is engaged by designing realistic, achievable enquiries.	
<b>I</b> ntentional L2L	There is explicit, intentional learning about enquiry. Enquiry is an end in itself as well as a means of achieving the learning outcomes. Learners are made aware that they are engaging in a process of enquiry, and they are trained/guided to enhance their skills/knowledge of aspects of the enquiry process.	Learning to learn is multidimensional, including e.g. metalearning (Jackson 2004).
<b>E</b> ncoded	Enquiry is explicit in learning outcomes and is recognised and rewarded through assessment.	This reflects Biggs' (2006) notion of constructive alignment.
<b>S</b> upported	All the above are guided and facilitated. It is not assumed that L automatically knows how to enquire or can be left to enquire in a laissezfaire manner. T remains responsible for facilitating enquiry through eg hands on help, training and guidance (including online support).	See <a href="http://www.som.surrey.ac.uk/learningtolearn">http://www.som.surrey.ac.uk/learningtolearn</a> for materials on facilitation.

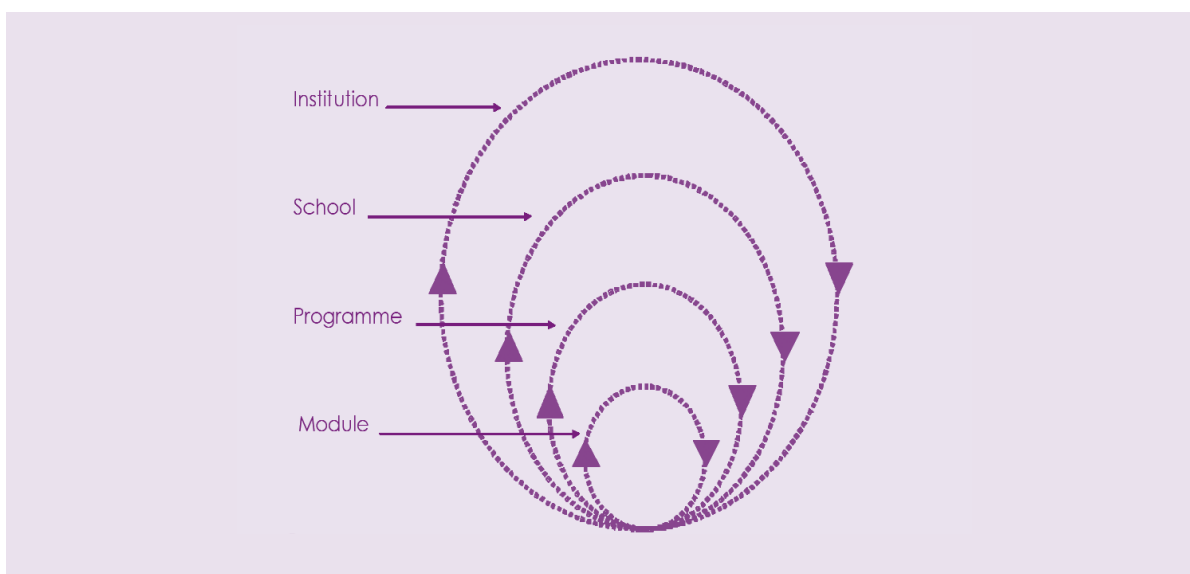
**Table 3: CHERRIES – eight characteristics of EBL**

### Wider Contexts (process of educational change)

In addition to exploring the ways that EBL is understood and practiced, the L2L project focused on learning about the process of educational change. It sought to support applications of enquiry based learning and to 'embed' change within the University of Surrey. We found it useful to consider different levels of change as demonstrated here. In our work as internal change consultants/agents across five schools in the University, we worked to varying degrees with the four levels identified – module, programme, school and institution. This involves engagement with students; module staff; programme leads; chairs of Learning & Teaching; and other educational/strategic development groups.

### For example we considered:

- How participation in the L2L project impacted on professional development and practice of the Module Leaders and on programme delivery.
- The extent to which enquiry based learning developments in undergraduate modules were initiated by enthusiastic individuals alone, and whether they were part of a wider curriculum based strategy.
- The extent to which enquiry based learning developments increased capacity of a wider groups of higher education staff with regard to for example, facilitation.
- How synergy developed across the institution - themes identified within the L2L project aligned with strategic work led by the Surrey Centre for Excellence in Professional Education and Training (SCEPTrE).



## Summary of electronic resources:

From each of the four case studies included in this pack, there are teaching materials we have highlighted as being of possible use to other EBL practitioners.

These can be found as appendices within the full case studies and have also been included separately for easy access in the section entitled “TEACHING MATERIALS” on the CD.

### Case study I

## Hospitality

**To access this teaching resource download files “Personal progress logs” “Skills matrix” and “Team Roles” from the TEACHING MATERIALS section of the enclosed CD. A detailed case study describing the module, educational developments and evaluation is included on the CD.**

The Hospitality Operations Management is a level 2 core module for students studying International Hospitality and Tourism Management at undergraduate level. The module precedes a placement year for many students. The module aims to increase student knowledge and understanding of hospitality operations, in particular food and beverage and project management. The module focuses on key management tools which are

discussed via a series of lectures and tutorials. A key feature of this module is that it provides an opportunity for practical hospitality operations via the Lakeside Restaurant and other suitable venues throughout the university in the form of a one-off event. Students work in small groups to conceptualise, plan, market, manage and evaluate a hospitality event on campus. Personal progress logs were introduced to encourage students to reflect on their personal learning and development through this module; these informed a review session with the Module Tutor at the end of the module and formed part of the module assessment.

Resources available from this case study include, the personal progress logs proforma and materials for introducing/supporting reflective practice to students. Also provided is material that was used to prepare the students for group work and to help them develop a vocabulary of skills development (Skills Matrix and Team Roles).



“ The value of it being written down [in progress logs], as opposed to last year when it probably got lost in the ether, was that in three months time they would be able to read it and think “gosh that’s the trauma I went through for that!...” You know we reflect on things as a matter of course because we’re older, but you don’t necessarily do that at nineteen. (Module Tutor)

“ I think that the personal logs were a way for us to evaluate ourselves ... when you actually sit down and you write your personal log after a week, you can look and you can go - I’ve actually learnt quite a bit, and then there’s bits I need to work on that you could learn for the next week. (Hospitality Student)

## Case study 2

# Organisational Change

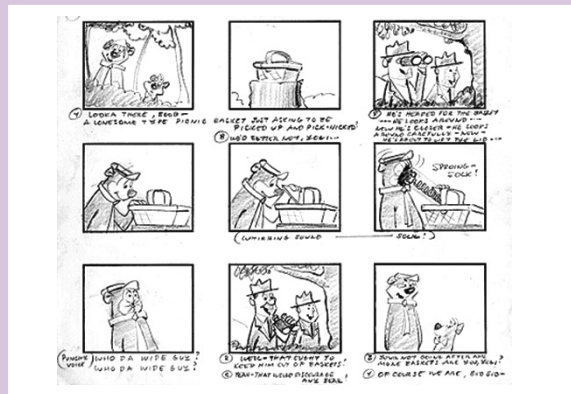
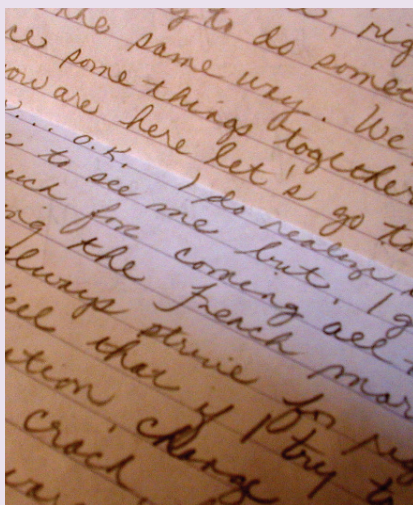
**To access this teaching resource download file “Assessing reflective accounts” and “A checklist of change competencies” from the TEACHING MATERIALS section of the enclosed CD. A detailed case study describing the module, educational developments and evaluation is included on the CD**

The Organisational Change Module is an elective level 3 module for students studying Business Management at undergraduate level in the School of Management. The module is the first that many students take in the autumn semester on return from a placement year.

The module seeks to introduce students to the idea of organisational change as ‘drama’, which signifies an understanding of change that involves awareness of contextual issues; appreciation of multiple actors

perspectives; and the use of multiple theoretical frameworks. Students are introduced to range theoretical models and experientially engage in a creative group process of enquiry concerned with contemporary organisational change. The module invites students to engage in activities that develop competencies associated with managing change, working with others and personal development. The assessment strategy is threefold. Students must produce (through group work) a one page storyboard depicting an aspect

of or episode in a contemporary example of organisational change; an evidenced reflective report of individual student competences as a manager of organisational change; and an individual essay assignment. The resources available from this module therefore include examples of student reflections showing how accounts were assessed and what feedback was provided to the students; and also the change competences offered to students as a framework for understanding their development.



“ My key idea was to create opportunities for creative work, because so much academic work is narrowly cognitive. A key thread through this module we created was to form students into small groups; to give them the brief to create one page visual representation of some aspect of a real case of organisational change. This was an opportunity to play and be creative... (Module Tutor) ”

“ I prefer the practical side of modules completely. If every module had that interactive element of doing something creative, not necessarily for assessment but something where you got together and talk, whereas lectures you sit there in silence and you get told something and you go away. (Reflective account from Business Management Student taking Organisational Change Module) ”

### Case study 3

## Dietetics

**To access this teaching resource download files “Facilitators “cheat-sheets” “Facilitator notes” and “evaluation materials” from the TEACHING MATERIALS section of the enclosed CD. A detailed case study describing the module, educational developments and evaluation is included on the CD.**

The Applied Dietetics module has been designed in response to recent changes to the structure of student training, which were introduced by the external regulating bodies – the Health Professions Council and British Dietetic Association. These changes required dietetics students to come back to university for 4-6 weeks between their two main placements. The Applied Dietetics Module has been designed to review and enhance the use of enquiry/problem based learning in the placement year pre registration. Structural changes to clinical placements were accompanied by a change in ethos with a move away from students’

obtaining experience within specific clinical specialities and towards the development of transferable skills. EBL/ PBL approaches were adopted for this module as they develop transferable skills; promote self directed learning and enable students to become active, reflective and research based learners. EBL/ PBL can also promote teamwork and inter-professional working skills essential for dietetic education and training.

Facilitator development and preparation is a key theme in this application. University based Facilitators found the PBL/EBL approach very different style to



traditional teaching. They had to adjust their approach when working with groups on this module. The materials available for this case study feature around the theme of supporting staff in developing facilitation skills as this was a key factor in the module's success. They include materials for the preparation and development of Facilitators - facilitators "cheat sheets"; facilitator notes and evaluation materials.

*" I came out buzzing on Friday, I just loved it, because I was nervous about it on the day because I hadn't done it before and I was so worried about 'am I getting the process right?' but I just loved it.*

*(Facilitator Applied Dietetics)*

*" My concern was, am I doing it the proper 'university' way? Do you know what I mean? Dealing with patients is different to the academic side of it and I was just - 'oh I hope I'm not going to let them down, I've never been officially taught how to facilitate' ...*

*(Facilitator Applied Dietetics)*

*" It was very enjoyable and also making new friends, getting to know people and just interacting - whereas in lectures you don't interact, you sit and you listen and people's concentration spans are poor, mine is quite poor and after about half an hour you're not really concentrating. But in this sense, you're reading up ... and you're thinking 'how much do I actually want to do on this myself? OK I want to throw myself in and really enjoy this' and you know, you all come together and it's good'*

*(Applied Dietetics Student)*

## Case study 4

# Health Care Interventions and 'In- Practice' Mentoring

**To access this teaching resource download files “EBL trigger example “Team work ground rules” and “Feedback mechanisms” and “Mentors Reflective Framework” from the TEACHING MATERIALS section of the enclosed CD. Detailed case studies describing the module and educational developments including evaluation are included on the CD**

The scale of nursing programmes at the University of Surrey presents an opportunity to develop teaching and learning for a large number of students and staff compared to other applications in the L2L project.

**Health Care Interventions** is a level two pre registration adult nursing module. One aspect of the Module is an enquiry based learning trigger question ('EBL Trigger') – which consists of a case study concerning an elderly confused patient and five trigger questions. Students work in small enquiry groups and prepare a presentations relating to each of the

trigger questions; they received peer and Tutor feedback on their presentation. Teaching staff are aware that students experience high levels of anxiety in relation to 'EBL triggers' and that the quality of Tutor support and feedback is variable. The management and enhancement of enquiry based learning in this context is challenging given a sizeable cohort of diverse students and a manifold workload for tutors. Given time and resource constraints a series of simple enhancements were developed. Module staff revisited the principles and aims of an enquiry based learning approach; un-facilitated group work sessions were

timetabled for students; students were offered guidance on ground rules for group work; the feedback process for students was reviewed and enhanced including a written feedback sheet. Resources available from this case study include the EBL Trigger case study and questions; ground rules offered to students for groups work; and a framework of feedback on EBL presentations.

**‘In Practice’ Mentoring** - level 2 pre registration adult nursing students experience a significant amount of their learning in clinical practice placements. This is a busy and complex learning environment and the practice based Mentor is a key figure in supporting student learning. A group of practice based Mentors met as an enquiry groups to reflect on their practice and to evolve their conceptions and practice in teaching and learning. A reflective framework was introduced to encourage Mentors and their students to reflect on how student learning is supported in practice placements. Resources available from this case study include the reflective framework used by mentors and their students.



*“ I get nervous and I go redder and redder and I think I am going to pass out in a minute. Which makes it more... you know you loose your way. ”*  
(Adult Nursing Student)

*“ The feedback was good, it was broken down into like sections and you could see what you did positively and what people liked and also there’s a section on how could you make it better. You read that and you think of next time - we could do this - I thought it was really, really good because its more of a feedback for you to keep. ”*  
(Adult Nursing Student)

*“ I have found that the best experience is when the Mentor is actually interested in teaching you and take you around with them , get to know you and then let you utilise your clinical skills. It is also useful if they remotely understand your learning needs and your personal targets. Some Mentors are too busy and stressed, in my experience. ”*  
(Adult Nursing Student)

## Other Resources on the CD

### PAPERS

We developed a series of papers through the project.

#### **EBL META ETHNOGRAPHY:**

Dr Rhona Sharpe and Professor Maggi Savin-Baden Oxford Brookes and Coventry Universities were commissioned to undertake a meta-ethnography of the literature relating to enquiry-based approaches to learning.

**To access this teaching resource download file “meta-ethnography” from the PAPERS section of the enclosed CD**

#### **MAPPING ENQUIRY-BASED LEARNING: Discourse, Fractals and a Bowl of Cherries**

A working paper summarising our response to the question – ‘what do we mean by enquiry based learning?’ We explore current definitions in the field and we also suggest that enquiry based learning might be understood as a question of pattern recognition more than of analytical exactitude. The paper offers two tools or ‘heuristics’; readers can assess the ‘EBL-ness’ of any particular module or event by mapping onto these tools, which are (a) a generic cycle of enquiry and (b) eight characteristics of enquiry based learning. These heuristics are best used, we suggest, in dialogue between staff and students, and among staff, where there is some level of desire to introduce, or to enhance, EBL. They allow for difference and variety in forms of EBL, but also indicate differences between EBL and (for example) Problem-based Learning (PBL) and other pedagogic approaches.

**To access this teaching resource download file “Mapping EBL” from the PAPERS section on the enclosed CD**

### **THEORETICAL CONCEPTIONS:**

This presentation for the LTEA conference in June 2007, describes some of the ways in which EBL is portrayed in the literature and discusses some of the emerging issues

**To access, download the file “Theoretical Conceptions” from the PRESENTATIONS section on the enclosed CD.**

### **FACILITATION RESOURCES:**

The Facilitator role in enquiry based learning emerged as an important theme in this project. We include here four papers produced in the course of the project which relate to facilitation practice.

- **Facilitation paper 1:** Introduction to facilitation generally, and specifically within an EBL context. By Dr Josie Gregory
- **Facilitation paper 2:** Also by Dr Gregory, this paper is offered as a companion to the first paper, as many of the elements for consideration in facilitating experiential learning apply to facilitating enquiry-based learning. This assertion is made on the understanding that enquiry-based learning is essentially drawing out learning through a process of systematic enquiry that engages the experiential, imaginal, propositional and practical knowledge of participants.
- **Facilitation paper 3:** Facilitating enquiry-based learning: getting started with the EPIC model. By Dr Paul Tosey. This is a four-part method that is distilled from a range of well known models such as Brockbank & McGill; Gregory; and Heron. The paper indicates sources and ideas to help with facilitator development.
- **Facilitation paper 4:** Can you recognise a good facilitator when you see one? By Dr Anne Lee. This paper outlines four different ways of conceptualising facilitation practice - behaviourism, critical thinking, socio-psychological methods and transformative approaches. It suggests the implications of these various approaches for facilitation practice.

**To access these teaching resources download files from the EBL FACILITATION RESOURCES section on the enclosed CD**

## **Links**

Learning to learn through Supported Enquiry website (L2L) Website:  
<http://www.som.surrey.ac.uk/learningtolearn/>

ESCalate Website: <http://escalate.ac.uk/>

ESCalate Fund for the Development of Teaching & Learning Website: <http://escalate.ac.uk/fdtl5>

Surrey Centre for Excellence in Professional Education and Training Website: <http://www.surrey.ac.uk/sceptre/>

The Learning through Enquiry Alliance Website: <http://www.ltea.ac.uk/>

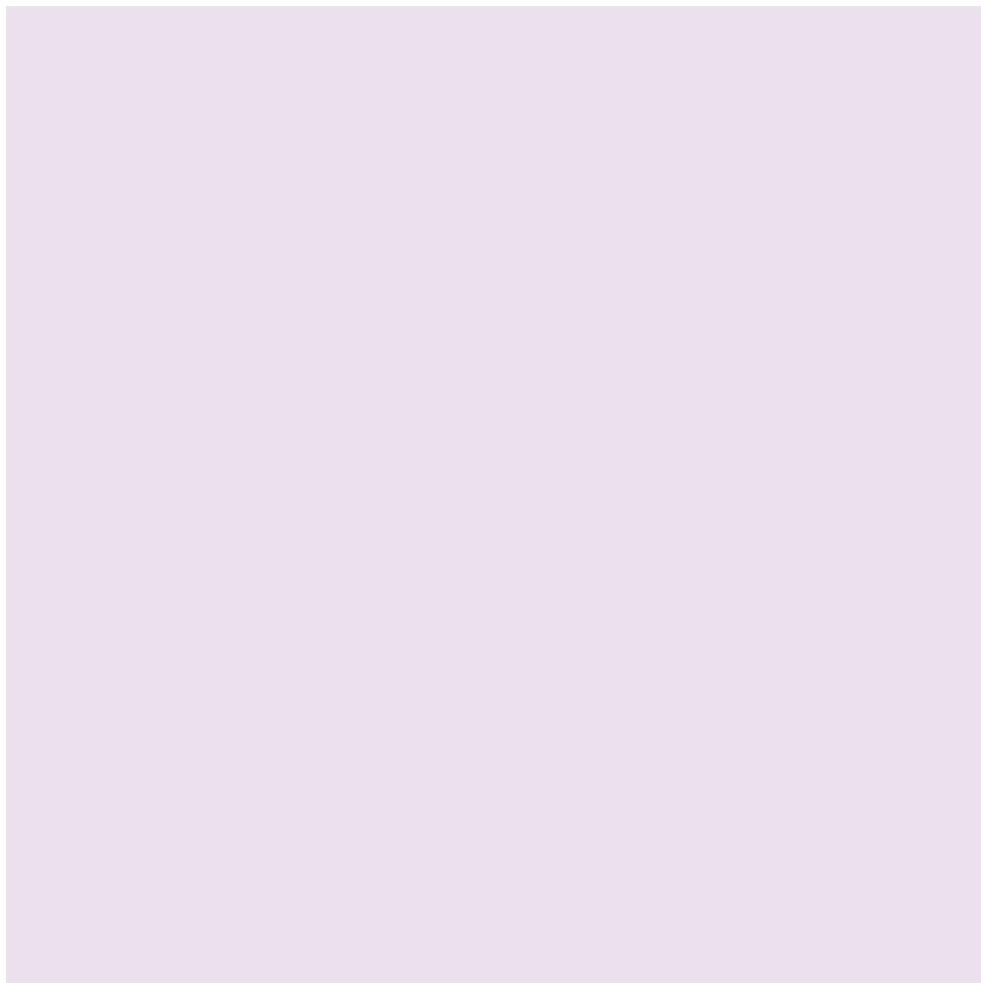
Higher Education Academy Website: <http://www.heacademy.ac.uk/>

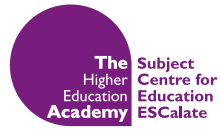
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