Easeit-Eng

EASEIT-Eng Evaluation Manual for Practitioners

Version 3
September 2000

www.easeit-eng.ac.uk

EASEIT-Eng is a consortium involving the Universities of Heriot-Watt, Hertfordshire, Hull, Loughborough, Northumbria and Surrey together with LTSN Engineering. It is funded through the TLTP3 programme by HEFCE and DHFETE.

Contents

1 EASEIT-Eng

What is EASEIT-Eng?

EASEIT-Eng aims to aid engineering academics in choosing and implementing computer-based learning material. It has established a standardised process for the evaluation of engineering computer-based learning and teaching materials in the actual context of their use within HE courses. The evaluations are performed using standardised procedures and reported in a standard format. Evaluations are made available in a fully searchable, web-delivered, database. The database is aimed particularly at the academic to enable comparison of packages and assist them in the process of selecting an appropriate software package for any intended context; in particular by giving recognition to the importance of the context in which the evaluated software was used.

The EASEIT-Eng Advisory Network complements the software evaluation function, offering evaluation clients specialist support, outside the scope of any IT support available within their own institutions. This support will vary according to a client's needs but may include assistance in choosing and implementing appropriate software as essential preparation for evaluation using the EASEIT-Eng evaluation procedures.

EASEIT-Eng Mission Statement

> *EASEIT-Eng offers an evaluative and advisory support network to encourage innovative teaching in engineering. EASEIT-Eng enables an academic tutor to make an informed choice from a range of evaluated computer-based materials. Its advisory network offers expertise to ensure effective curricular integration.*
>
> *Software to be evaluated and which the advisory network will support is defined as software whose primary purpose or primary contextual use has a declared pedagogical intent within Engineering Science.*

Who is involved in EASEIT-Eng?

EASEIT-Eng, supported by the Professional Institutions of Chemical, Civil, Electrical and Mechanical Engineering is a consortium involving the Universities of Heriot-Watt, Hertfordshire, Hull, Loughborough, Northumbria and Surrey. EASEIT-Eng also relies on contributors from other sites who perform a key role in its success.

EASEIT-Eng Clients

Engineering academics at UK higher education institutions who host software evaluations are referred to in this text as 'EASEIT-Eng clients'. Clients will fit into two broad categories: those requiring help and support in choosing and/or using the software to be evaluated and those not requiring help and support but willing to let EASEIT-Eng evaluate the software they are using with their students. The contribution of clients is key to the success of EASEIT-Eng as all software evaluations will be implementation based (i.e. software evaluated will be used in real teaching situations).

What's in it for the client?

- Assistance and advice in using the materials.
- The evaluator will minimise the effort required on the client's part.
- At the end of the evaluation, the client will receive a full evaluation report, along with a copy of all relevant analysed data.
- It may be possible to publish the findings of an evaluation.
- Additionally, software authors who are keen to have their software evaluated may allow the prospective client to use the materials free of charge in return for that evaluation.
- A fee of £150!

What does the client have to do?

- Provide the evaluator with details of the software being used.
- Take part in a two interview/questionnaire sessions (one before and one after the evaluation).
- Allow the evaluator to hand out questionnaires to students who use the software.
- Allow the evaluator to observe the students' use of the software and to interview a small group of students after their session using the software.

What support can be given to the client?

- Research of the range of software packages available for use in the client's teaching area.
- Advice on which package to use and how to implement it.
- Advice on the type of IT support required at the client's institution to ensure that the required computer hardware and network structure are in place.
- Liaison with the client's IT support staff to ensure that these measures are in place.

EASEIT-Eng Evaluators

EASEIT-Eng evaluators form the EASEIT-Eng Advisory Network, which supports evaluation clients. Evaluators are responsible for performing evaluations using the EASEIT-Eng evaluation procedures. Providing advice and support is part of the evaluator’s role but each evaluator will have different areas of expertise and is not expected to be able to answer all enquiries. On some occasions it may be necessary to liase with other EASEIT-Eng team members or an external consultant to support a particular client. The EASEIT-Eng evaluator is responsible for:

1. Identifying possible clients to host EASEIT-Eng evaluations.
2. Contacting prospective clients and persuading them to host an evaluation.

3. Ensuring that all the required software, hardware and other resources are in place to allow the evaluation process to run smoothly and effectively. This will involve liasing with the client and their IT Support staff where necessary.
4. Conducting the software evaluation. This will include:
   - Assisting the client in completing a pre-evaluation questionnaire.
   - Observing students' use of the software.
   - Ensuring that a significant number of students provide feedback on their use of the software by filling in a feedback questionnaire.
   - Interviewing the client and a group of students after the evaluation session.
5. Analysing and summarising data acquired during the evaluation process.
6. Writing the evaluation case study report.

EASEIT-Eng Administrator

The EASEIT-Eng Administrator oversees the evaluation process and archives all EASEIT-Eng evaluation data. All information relating to evaluations planned or in progress should be forwarded to the Administrator.

EASEIT-Eng Evaluation Manual

The manual will guide an evaluator through every stage of the EASEIT-Eng evaluation process. It contains documents to assist the client contact process and evaluation tools for every stage of an evaluation. At each stage, guidance notes are provided. The EASEIT-Eng Evaluation Manual is broken down into four sections:
- *EASEIT-Eng*, an introductory section.
- *The EASEIT-Eng Evaluation Process*.
- *Arranging an Evaluation.*
- *The Evaluation*.

Also included in this Evaluation Manual are two flowcharts, located at the front of the Manual for easy reference. These summarise the process and allow the necessary forms for each stage to be quickly identified. The number references associated with individual steps in the flow chart relate to the relevant section of this Evaluation Manual. These sections are marked by the appropriate numbers, which are located in the left-hand margin as they occur.

A master copy of each form is included. Electronic copies of are also provided on the CD-ROM included with this manual. The forms should be photocopied or customised and printed (as appropriate) for each new evaluation.

2 The EASEIT-Eng Evaluation Process

EASEIT-Eng evaluations are conducted in two stages, which separate the factual description of a software product from its use in an educational setting.

Stage 1: Software Reviews

A software review concentrates on factual information about a software product examining context-independent features, such as technical content and hardware required. Software reviews will be performed by an academic expert in the subject area covered by the software under evaluation.

The process involves a reviewer completing a structured questionnaire (1_reviewqu.doc), which is submitted directly into the EASEIT-Eng database and converted automatically to a tabular format for a user to view. Certain fields (e.g. software name, manufacturer, supplier, etc.) will have been ascertained and completed by the EASEIT-Eng Administrator before the reviewer begins the review.

The priority for selecting software for review will be that the software has already been identified for evaluation. When an evaluation has been agreed an evaluator should check for an existing software review, and if none is present then ensure that one is commissioned. This is covered in more detail in Section 3.

Evaluators will use software reviews prior to evaluation visits, to help familiarise themselves with software that clients wish to use.

Stage 2: Software Evaluation in a Learning and Teaching Context

An EASEIT-Eng software evaluation will involve the following stages:

1. The client completing a pre-evaluation questionnaire that will address issues such as why the client has chosen this particular software to use in their teaching, and what benefits they expect from its use.

2. Evaluation visit(s) by the evaluator to the client's institution. The visit(s) will involve the following:
   - Assisting the client in setting up the software/computers for use during the session - if required.
   - Observing and reporting on students' use of the software.
   - Obtaining feedback from the students by means of an evaluation questionnaire.

3. Obtaining additional feedback on the use of the software from a small group of students after the evaluation session has been carried out.

4. Interviewing the client to assess a number of issues, including whether their expectations of the software were realised and if the client believes the software to be a useful teaching and learning aid.

5. Analysis of data collected during the evaluation visit and from the various questionnaires and interview sessions.

6. Writing the evaluation case study report.

7. Feedback to the client on the case study report and any relevant data from the evaluation.

8. Submission of reports to the EASEIT-Eng evaluation database.

For a more detailed account of what constitutes an EASEIT-Eng evaluation, see Section 4 of this Evaluation Manual.

The EASEIT-Eng Mark

Where appropriate, an EASEIT-Eng mark should be awarded to software that performed to pre-defined standards. The mark should be added to the software's database entry. Software authors/publishers should be notified if their product has been awarded an EASEIT-Eng mark and provided with a formal description. They should be encouraged to display this mark on their software's packaging in the future.

3 EASEIT-Eng Evaluation Criteria

Standardised evaluation process: overview

Introduction

The following table sets out the areas to be investigated. Complementary mechanisms are used to complete the separate software review and case study elements that comprise full evaluations of engineering computer-based learning materials. The "aspects of evaluation" listed are broken down into sub-groups each centred on a "big question" in the evaluation process. The individual aspects are not themselves intended to be read as questions but are intended to promote development of the evaluation tools. These tools may be in the form of questions or issues to be probed. The design of the tools must be in an appropriate form for interviews, observations, feedback sessions, or focus groups.

Software reviewers will work from basic factual information provided by EASEIT-Eng case studies will be conducted using a combination of three elements: a structured interview with an academic tutor, observations of sessions in which software is used, and gathering feedback from students by questionnaire and focus group. Typically one such combination of activities will take place during the later part of the module delivery, but the exact programme for each evaluation, including the number of visits required, will be determined on an individual basis from discussion between the EASEIT-Eng evaluator and the lead academic. Where appropriate, more than one visit may take place to complete an evaluation. If the full advisory service is offered to a client, then it is expected to be necessary to visit on a number of occasions.

Meaning of abbreviations used

Review:

- E-E: Information to be provided by EASEIT-Eng for software reviewer
- Qu: Questionnaire to be completed by reviewer

Evaluations in Context:

- P-EQu: Pre-evaluation questionnaire, completed by client through web form, e-mail, telephone conversation or meeting with EASEIT-Eng evaluator.
- Int: Structured interviews with lead academic conducted by EASEIT-Eng evaluator. May also include discussions with support personnel and authors.
- Obs: Observations of use of CBL package by EASEIT-Eng evaluator.
- F/b: Feedback taken from students by EASEIT-Eng evaluator through questionnaire and/or focus group. Focus group allows specific issues arising during evaluation to be explored in detail.
- Wrap-up: Brief final discussion (e-mail, telephone or face-to-face) with lead academic after completion of draft case study report, allowing opportunity to comment on case study report

Choice of element for evaluation

In many cases it may be felt that a particular issue can be evaluated to some extent by all of the mechanisms. While wishing to be thorough in the evaluations, repeated evaluation of the same issue should be avoided. In addition, certain mechanisms may elicit more objective information than others and so an attempt has been made to concentrate on these more objective mechanisms.

Sources of information used

In addition to experience gained through evaluations conducted as part of EASEIT-Eng, the following sources of information have also been used.

- TEEM (Teachers Evaluating Educational Multimedia) evaluation outline: http://www.teem.org.uk
- Learning Technology Dissemination Initiative (LTDI) Implementation database: data entry form.
- D. Squires, "An heuristic approach to the evaluation of educational multimedia software", http://www.media.uwe.ac.uk/~masoud/cal-97/papers/squires.htm
- Criteria for evaluating off-the-shelf multimedia training vendors, developed by D Woodall, http://www.netg.com/evaluate.htm
- Guidelines for the Design of Educational Software, Working Group 5 of the Accredited Standards Committee Medical Devices 156, http://www.temple.edu/dentistry/di/edswstd/

Aspect of Evaluation	Review		Case Study				
	E-E	Qu	P-EQu	Int	Obs	F/b	Wrap-up
1: What is the institutional context of the implementation?							
CBL policy (where it is an influence on delivery)			✓				
Institutional / Faculty / School / Departmental CBL support structures			✓				✓
Anonymity preferred?			✓				✓
2: What is the pedagogic context of the implementation?							
Course / module title and year of degree programme			✓				
Degree programme title(s) in which module is available			✓				
Course / module timetable			✓				
Course / module and session aims / objectives / specified learning outcomes			✓				
Reasons for introducing CBL / anticipated changes				✓			
Reasons for selection of particular CBL package				✓			
Number of students in group			✓		✓		
Student backgrounds: educational, cultural				✓			
Typical level of computer literacy, IT skill training provided?				✓		✓	
Student familiarity with CBL-type material generally				✓		✓	
What learning resources were used and which were most useful?						✓	
3: What are the important features of the mode of delivery of the CBL package?							
Course / module delivery before introduction of CBL			✓				
Planned modifications to delivery inc. assessment: replace / augment?				✓			
Planned changes in resources required: rooms, computers etc.				✓			
Description of sessions using CBL package			✓	✓	✓		
Available outside timetabled sessions?				✓		✓	
Rate consistency of CBL package with rest of course material.				✓		✓	
Support personnel involved / staff training given			✓				
Ease of installation / robustness		✓		✓			
Unexpected problems encountered and solutions					✓		
Experience of students with special needs (where applicable)				✓	✓	✓	
4a: Evaluating the package: General identification of the product							
CBL package: title, version and publisher / supplier	✓		✓				
Original date of distribution / date of last upgrade	✓						
Product status: commercial / non-commercial / in-house etc.	✓						
Pricing & licensing arrangements	✓						
Type of provision: instructional, worked examples, tests, simulation etc.		✓					
Intended delivery environments: standalone, distance, local etc.		✓					

Aspect of Evaluation	Review		Case Study				
	E-E	**Qu**	**P-EQu**	**Int**	**Obs**	**F/b**	**Wrap-up**
4b: Evaluating the package: Is the material written in a third party authoring package?							
Is CBL package written in a third party authoring package e.g. Question Mark, Authorware, web-authoring? Which one?	✓						
Comment on authoring skill of author e.g. enthusiastic academic, professional technical author				✓			
Comment from author on ease with which CBL package was prepared inside chosen authoring package				✓			
4c: Evaluating the package: What technical considerations are associated with the CBL package?							
Delivery medium: web, CD-ROM etc.	✓						
Suitable platforms / operating system	✓						
Platforms used during use		✓			✓	✓	
Flexibility: customisable to suit local need? Supports more than one language?		✓		✓			
Hardware and other resources required per learner inc. additional software	✓			✓	✓		
Hardware and other resources used in the CBL session and at other times				✓	✓	✓	
4d: Evaluating the package: How does the CBL package rate on overall appeal?							
Does package need capabilities of computer or would book, video etc. be as effective		✓		✓		✓	
Do teaching methodologies match technical content and target audience? (Too hard?)		✓		✓		✓	
Is motivation intrinsic? Are curiosity and student confidence maintained?				✓	✓	✓	
Is the level of challenge appropriate?						✓	
Is the CBL package interactive?		✓			✓	✓	
Are the interactions appropriately varied and of right frequency?		✓					
Do interactions enhance learning?				✓		✓	
4e: Evaluating the package: What subject matter is addressed by the CBL package?							
Author-stated objectives, claimed benefits and target audience	✓						
Consistency with author-stated objectives (review), claimed benefits (case study)		✓		✓			
Consistency with tutor-stated objectives						✓	
Objectives stated within package to guide students?		✓				✓	
Subject area and content list		✓					
Is material presented accurate, complete and at right level of detail?		✓		✓		✓	
Is presentation of material in a logical order?		✓		✓		✓	
Shelf life: will content date?		✓		✓			
4f: Evaluating the package: Is the written style acceptable?							
Is the written style appropriate for reader and the technical content?		✓		✓		✓	
Is the written style consistent?		✓					
Are acceptable technical terms / jargon used		✓				✓	
Are spelling, grammar and punctuation acceptable?		✓					
4g: Evaluating the package: How do the surface features of the CBL package perform?							

Aspect of Evaluation	Review		Case Study				
	E-E	**Qu**	**P-EQu**	**Int**	**Obs**	**F/b**	**Wrap-up**
Are screen displays uncluttered and aesthetically pleasing?		✓				✓	
Do screen layouts emphasise key points? Is information given in manageable chunks?		✓				✓	
Is system status visible at all times?						✓	
Which media – text, video, images, audio etc. – are used.		✓					
Are media used effectively				✓		✓	
Is good use made of colour? (colour blindness?)		✓				✓	
Ease of navigation: forward page, back page, exit		✓			✓	✓	
Ease of navigation: under user control? Error correction?		✓			✓	✓	
Does program accommodate accidental terminations		✓		✓		✓	
Can user leave at any time and use bookmarks?		✓					
Input devices – mouse, keyboard, microphone - used appropriately?		✓			✓	✓	
Appropriate information given when user ends session / exits program		✓			✓	✓	
4h: Evaluating the package: Are assessment elements of the CBL package useful?							
Are summative / formative tests available?	✓						
Test questions selected from bank, randomly ordered, fixed?		✓					
Do test questions reflect stated objectives		✓		✓			
Are test questions appropriately located in the package?		✓		✓		✓	
Is test answer entry convenient and technically acceptable?		✓		✓		✓	
Is feedback given and is it in an appropriate format?		✓		✓			
Is feedback supportive, corrective and clear?					✓	✓	
4i: Evaluating the package: Are administrative elements of the CBL package useful?							
Are performance records generated / use outside timetabled sessions logged?	✓						
Is valid data gathered on users / groups of users for evaluation?				✓			
Can lead academic control data collection?	✓			✓			✓
Are files and records secure?	✓						✓
4j: Evaluating the package: Is documentation for the CBL package useful?							
Is supporting documentation available: For learner? For tutor?	✓						
Is documentation paper based, web-based, embedded in software, hotline?	✓						
Are help documents clearly structured?		✓		✓		✓	
Are help documents useful for installation / general use?		✓		✓		✓	
Are help documents useful for technical content/pedagogical aspects?		✓		✓		✓	
5: Looking back, what is your impression of the CBL package now?							
Match with expectations				✓			
Potential areas for improvement				✓		✓	
What did you find most/least helpful about the CBL package for your course/module?						✓	
Reaction to student feedback / case study report (inc. comment from author, see 4b)							✓
Comment on impact on final assessment results							✓
6: Is there any other information of use for the evaluation record?							
Similarity with other packages	✓	✓		✓			
Other published evaluation reports	✓	✓		✓			
Other published case study reports	✓	✓		✓			

4 Arranging an Evaluation

This section guides an evaluator through the process of arranging an evaluation. This includes identifying a client and making the first contacts, through to planning the evaluation schedule.

Identifying Clients

An EASEIT-Eng 'client', an engineering academic who hosts a software evaluation, is described more fully in Section 1. Evaluators are responsible for identifying their clients who are usually fall into one of two categories:

- Clients who need advice and support in choosing and/or using software who, in return, are willing to allow an evaluation to be performed in the context of its use.
- Clients who do not need advice and support but are willing to allow an evaluation to be performed in the context of its use.

Clients can be located through many different routes, for example:

- Evaluator's own institution.
- Approaching colleagues in other institutions.
- From a literature survey of engineering education and other relevant journals and newsletters such as those published by TLTP or FDTL.
- Through requests via mailbase and other discussion lists.
- Through publicising EASEIT-Eng (newsletters, letters, surveys, workshops, conferences etc)

The EASEIT-Eng team have an ongoing dissemination strategy which covers many of the above.

Initial Administration

Client Contact Details / Client File

1 Prior to contacting a potential client, you will need to determine basic information including name and contact details. Check also with the EASEIT-Eng team to see if there has been any previous contact with the prospective client.

It is also useful to know in advance the client's subject discipline and the engineering courses they teach. If this information is not known, it is often easily obtained from university and departmental websites. When you have this information, also work towards getting a general feel for the teaching software available in that area. The LTSN Engineering software database and the EASEIT-Eng database should prove useful sources of information for this purpose.

2 A client file should be now opened (2_evaldets.doc) and maintained by the evaluator working with the prospective client. At this stage, the file will simply contain the prospective client's contact details and the date of initial contact. All other information supplied by the client during subsequent contacts, in addition to data relating to an evaluation, should be added to this file. The file will contain a combination of the formal documents supplied with this manual together with additional notes in a format convenient to the evaluator. Whenever the formal documents are completed or updated, copies must be forwarded to the EASEIT-Eng Administrator for archiving.

3

Introductory e-mail

Send a brief e-mail to the prospective client, informing them of your intention to phone within few days. Include the following in the e-mail:

- Reason for e-mail including why you are contacting them in particular.
- Brief description of EASEIT-Eng.
- What the client will get out of the evaluation.
- What is involved in an evaluation.
- How you will follow up the e-mail.

Document 3_nutshell.doc provides a useful summary of the EASEIT-Eng process.

Initial Contact

4

5

The first contact is normally by telephone, aiming to give a potential client enough information to decide whether they are interested in becoming a client:

- Introduce yourself.
- Describe EASEIT-Eng and outline its aims and objectives.
- Explain why we need clients and how the prospective client will benefit from undertaking an evaluation.

Again, you may find Document 3_nutshell.doc and information in Sections 1 and 2 of this manual useful in this conversation.

- Describe the evaluation process.
- Additionally, where potential clients have approached you, establish how they found out about EASEIT-Eng.
- Thank the prospective client for their time and offer to send further details about EASEIT-Eng.

Additional information about EASEIT-Eng could include the website URL, 3_nutshell.doc, the EASEIT-Eng flyer and the latest EASEIT-Eng newsletter. The flyer, a glossy three-fold A4 leaflet, outlines EASEIT-Eng's aims, objectives and the evaluation process. The newsletter includes background information, news updates, forthcoming events and feedback on the evaluation process from both EASEIT-Eng evaluators and previous EASEIT-Eng clients. Further newsletters and flyers are available from the EASEIT-Eng team if required.

The conversation will probably end in one of three ways:

- Agreement to become a client.
- Further discussion with / consideration by prospective client required.
- Prospective client declines to be involved (establish if they would like to be contacted again at a later date).

In all cases, the client file should be updated.

Second Contact

6 The second contact is made when an academic has agreed to become a client and is to establish as much information about the evaluation to be carried out as possible:

- Software package name or subject area if no package chosen.
- Number of students using it.
- An idea of how the software will be used.
- Timetable (roughly when in the academic year to avoid double booking clients).
- How much help they will need, if any (e.g. help in choosing software). The type of support an evaluator can offer is detailed in Section 2.

The information obtained should be recorded in 2_evaldets.doc. Note that it may not be possible to obtain all this information in one contact, or the client may require advice at this stage on a suitable package to use.

To complete the call you should:

- Explain that the EASEIT-Eng team will now work out a provisional schedule for the proposed evaluation, taking into account the resources available and the nature of the evaluation. At this stage clients are still not committed to involvement.
- Agree a date by when you will get back to them.
- Thank the prospective client for their time and interest.

7 When the information is as complete as possible, the evaluator should contact the EASEIT-Eng Administrator to:

1. Decide (if and) when the advice / evaluation can be programmed into the schedule.
2. Assess whether the prospective client's required level of support is feasible and within the remit of EASEIT-Eng. If it is not, a compromise will need to be reached with the evaluator, the client and the institution’s own support staff. If any technical support is agreed then the evaluator must obtain written agreement from the client’s institution in order to prevent potential conflicts.
3. Obtain the software and licence details.
4. Check whether or not an EASEIT-Eng software review exists for the software that the client intends to use or for software that may be suitable for the client in the case where advice is required. If a review has not already been conducted, the evaluator must submit a request to the EASEIT-Eng Administrator for a review to be commissioned. If no EASEIT-Eng review exists, check reviews from other sources.

8

9

Third Contact

Confirm to the prospective client what support can be provided, if requested, and when any advice and the evaluation can be scheduled. This is the point at which the client must commit to involvement and so a written confirmation is required. E-mail is acceptable.

It is essential to ensure that the client understands exactly what the evaluation will involve so invite the client to clarify any points of uncertainty and be willing to meet a client face-to-face at this stage, if they think it would be useful. Confirm any outstanding details of the process and schedule a detailed programme for advice and for the evaluation process.

Document 4_fctsheet.doc details the evaluation process and should be sent to the client on receipt of their written agreement to participate. The evaluation schedule details should be recorded in 2_evaldets.doc.

10

The Follow Up

Once the client has formally agreed to participate and before your next contact with the client, become familiar with the software package(s) yourself.

Summary

You should now be in a position to move onto the next section in the Evaluation Manual and carry out the evaluation itself.

It is essential that the following have been done:

- A client file has been opened and filled in as appropriate.
- Copies of records have been forwarded to the EASEIT-Eng Administrator as appropriate.
- You have agreed the evaluation with the EASEIT-Eng Administrator, are aware of the level of support the client requires and have familiarised yourself with the software under evaluation.
- A software review has been commissioned if necessary.
- The client has formally agreed to undertake an evaluation and is aware of what an evaluation involves.
- The evaluation schedule has been agreed.

5 The Evaluation

This section guides an evaluator through the evaluation itself. This includes the evaluation visits, writing the case study report and submitting it to the EASEIT-Eng database. The evaluation process is described in Section 2.

11

Pre-evaluation Interview / Questionnaire

The pre-evaluation questionnaire (5_preqnr.doc) should be completed during a pre-evaluation visit or conversation. One of the key aims of this questionnaire is to enable the evaluator to identify any issues that might need particular attention during the visit. This information should preferably be obtained via face-to-face interview or over the phone, with the evaluator entering the client's responses directly into the questionnaire. However, the paper-based version may also be mailed for completion by the client if a face-to-face or telephone conversation is not possible. A follow-up telephone call should then take place in this case.

A face-to-face meeting at the client's institution, which gives the opportunity to visit the location that will host the evaluation should be taken wherever possible, especially if this was not achieved when the evaluation was being arranged. The advantages of a face-to-face meeting at this stage include giving the evaluator a chance to get to know the client, understanding the context and hopefully viewing the computing laboratory and facilities to be used during the evaluation.

Complete the pre-evaluation questionnaire, tailoring the conversation according to the level of support the client requires in order to undertake the evaluation. You should also reconfirm the evaluation schedule at this meeting especially if there has been a significant time gap since it was arranged. It will also be useful to discuss the format and content of the student questionnaire with the client at this stage, as the question selection can then be decided.

12

Prior to the Evaluation Visit Day

Advice and Support

Before the evaluation visit, any advice and support requested by the client should be dealt with on an individual basis. This may involve no action at all on the evaluator's part if the client already has the software implemented and is experienced in its delivery and use. Alternatively, the evaluator may be required to visit the client and advise on choosing and implementing the software. Liaison with the client's institution support staff may be required to ensure that the evaluation visit will run as smoothly as possible - i.e. software installed correctly, network/PC specs are good enough to successfully deliver the software etc. It should be noted that in cases where the evaluator does not feel qualified to give the necessary advice/support, they should seek help from other EASEIT-Eng team members.

13

Evaluation Visit Check

A few days before the visit, the evaluator should contact the client to make sure that everything is in place for the evaluation visit (i.e. room booked, correct number of computers available, software installed correctly etc.) and that there are no obvious problems that will affect the evaluation. You should also check what facilities you will have access to. For example, will a flip chart be available for the student group interview?

The evaluator also needs to ensure that the schedule has not changed at all. For example, the client may have been unable to arrange students for a focus group immediately after the session etc. Any problems should be ironed out at this stage if possible, which may mean arranging additional visits.

The Evaluation Visit(s)

14

Introduction

The evaluation visit(s) may be held on one or more days. If only one visit is to be undertaken, then the evaluator is going to find it a very hectic day! The activities to be undertaken during the evaluation visit(s) include:

- Obtaining student questionnaires.
- Observation of the software session.
- Student Group Interview.
- Client Interview.

The following sections are written assuming that the activities are carried out in the order given above and on one day. This will not be the case in many evaluations and the schedule should be adjusted to suit each particular evaluation.

Timing

You should arrive at the client's institution with sufficient time to meet with them prior to the software session / first activity. This way, you can meet the client (if you haven’t previously) and view the facilities and sort out questionnaires and so on.

Student Questionnaires

The student questionnaires should be prepared using the file 6_studqnr.dot, which can be found on the CD-ROM enclosed with this manual. Detailed instructions of how to use this template file can be found in 6_studqnr.doc as it involves using some of the Word tricks normally used for form letters and mail merges.

If at all possible, try to distribute the student questionnaires during the software session which you are observing. Ensure that the students will have time during the software session to fill in the questionnaire (5 to 10 minutes at the end of the session). It will be easier to have them to hand in the completed questionnaires at the end of the session than for the client to chase them up afterwards!

Software Observation Session

Before the session, you might help the client as a gesture of goodwill even though this is not the evaluator's primary role. Be prepared to introduce yourself to the students and explain the purpose of the evaluation.

During the software session, use the observation schedule (7_obsched.doc) as a guide to observing students' use of the software. Make appropriate notes, using a dictaphone if desired. Intrusion into the student learning experience should be kept to an absolute minimum.

Student Group Interview

Ideally, the student group interview will be held immediately following the software session, as this is when you are most likely to be able to talk to the students. The student group interview will require advance preparation (see 8_gpint.doc) and you may need equipment such as a flip chart to be made available. This should be organised before the evaluation visit. The client should not be present during this interview because the students may be reluctant to divulge certain views on the software or its delivery. Thus, important evaluation data may be lost. This interview should be taped or similar for future reference.

Post Evaluation Client Interview

The evaluation ends with a formal interview with the client to ascertain their views on the software and the evaluation. Sometimes we can ask all the questions that we need to ask the tutor in a single visit, other times it is better to ask some of the questions early in the evaluation, and others at a later stage. With more than one evaluation visit, the two interviews will help provide a more in-depth investigation into the progress of students' use of the software. For this reason there are three scripts in the handbook. One covers all the questions you would want to ask (9_tutint_single.doc, the single visit script), the other two divide these questions into those that can best be asked during an early visit (9_tutint_vis1.doc) and the remainder that are best asked in at a later stage (9_tutint_vis2.doc, second visit script). The client should not have received the analysed student feedback prior to this interview, as they will be given the opportunity to comment on the student data during the feedback session for the case study report. You will probably want to tape this interview.

Data Analysis

15

Analysis of the Raw Data

The raw data collected during the evaluation visit(s) from the pre-evaluation interview/questionnaire, student observations, student questionnaires, student group interview and post evaluation client interview will need collating and analysing.

Use of secretarial support is encouraged whenever appropriate, for example to input the raw data collected from questionnaires into the supplied Excel templates (see the CD-ROM included with this manual). Students have also been successfully employed on a part time basis to carry out data entry and preliminary data filtering/analysis. (The evaluator should ensure adherence to their institution's policy on the casual employment of students.) Detailed data analysis and the writing of case study reports is carried out by the evaluator. Evaluators may find it useful to generate a summary sheet for each set of data analysed. This should facilitate the case study writing process and condense the data into a format suitable for feedback to the client.

The transcription of interviews could also be done with the aid of secretarial/student support. However, the evaluator may prefer to simply play back the recording whilst writing the case study report. Key points raised during the interview may then be addressed in the case study without the need to carry out a full text transcription of each interview.

Data should be processed as quickly as possible after the evaluation so that initial findings (e.g. a breakdown of student questionnaire responses) can be fed back to the client and be of as much use to them as possible. Clients may be given summary sheets relating to their student's feedback or the processed data in spreadsheet format. A client would not normally have access to individual questionnaire returns.

16

Back Up

Once the raw data is in electronic form, it should forwarded to the EASEIT-Eng Administrator for archiving. It will not be made available to database users but could be useful in cases where we wish to write a longer article for publication.

17

Production of the Evaluation Report

The evaluation report should be written using the supplied template (10_reptemp.doc, also available in electronic form on the CD-ROM enclosed with this manual.) The report should be written in the third party and be relatively informal. The lecturer’s name and institution should only appear in the heading of the report. Although the report is a summary of the evaluation (typically no more than two pages of A4), it is crucial that it is a useful document. While writing the evaluation report, the evaluator should remember the overall aim of EASEIT-Eng is to *enable an academic tutor to make an informed choice from a range of evaluated computer-based materials.* The report will aid comparison of packages and ease the selection process, while giving recognition to the importance of the choices made by a lecturer in how the software is integrated into their course.

The evaluator should forward a copy of the completed evaluation report to the client for comment. Inclusion of general feedback from the client into the report is at the discretion of the evaluator but a separate field has been set aside in the report specifically for the client to add a comment. A copy of the final report should be sent to the client.

Although clients may remain anonymous in the report, this should be strongly discouraged. The database will be most useful to users if they are able to contact clients for further information about software or its implementation.

Wrap-up

18 **Feedback**

The evaluator should later contact the client and obtain answers to the questions listed in the feedback questionnaire (11_fbackqnr.doc). These questions will help ascertain whether the client believes the evaluation process worked well, if they found the evaluation report useful and whether they would recommend EASEIT-Eng to colleagues.

19 **Submission to the Database**

The evaluator will submit the final report to the EASEIT-Eng database through a web-based form. The report will not go live immediately but will first be proof read by at least one other member of the EASEIT-Eng team and have keywords added.

The EASEIT-Eng Directors will then award an EASEIT-Eng mark, if appropriate, and make the evaluation live. Within the database, the report will then be associated with its software review and any other evaluations at this point.

Before the report is live, the software author or publisher will be given an opportunity to add a comment, which will be added to the final report in a separate field. The original report will not be altered unless the evaluator feels it necessary for example where factual details were wrong.

End of Section

At this stage the evaluation with this particular client should be complete and a new entry should now be in the EASEIT-Eng database.

It is essential that the following have been done:

- All activities of the evaluation process have been completed and the data analysed.
- The evaluation data has been added to the client file and the EASEIT-Eng Administrator is in possession of a copy of the file in its entirety.
- The evaluation report has been seen by the client before submission to the database.
- Feedback data on the evaluation process has been obtained.

6 Contact Details

EASEIT-Eng Administrator	Gill Youngs EASEIT-Eng Administrator Department of Mechanical Engineering Loughborough University Loughborough Leicestershire LE11 3TU Tel: (01509) 228441 e-mail: g.m.youngs@lboro.ac.uk
Directors	Dr Steve Rothberg Loughborough University Tel: (01509) 223245 e-mail: s.j.rothberg@lboro.ac.uk
	Fiona Lamb LTSN Engineering Loughborough University Tel: (01509) 227171 e-mail: fiona@ltsneng.ac.uk
Evaluators	Phil Barker / Helen Jackson Heriot-Watt University Tel: (0131) 4513278 e-mail: philb@icbl.hw.ac.uk
	Gwen Marples University of Northumbria Tel: (0191) 2156022/2274181 e-mail: gwen.marples@unn.ac.uk
	Dr Andrew Wallace Loughborough University Tel: (01509) 227194 e-mail: a.wallace@lboro.ac.uk

7 EASEIT-Eng Evaluation Documents

Section 2:

1_reviewqu.doc	Software Review Form

Section 4:

2_evaldets.doc	Client contact details record form
3_ nutshell.doc	Fact sheet to leave with client at follow-up contact
4_ fctsheet.doc	Fact sheet to leave with client at follow-up contact

Section 5:

5_preqnr.doc	Pre-evaluation questionnaire
6_studqnr.doc 6_studqnr.dot	Student questionnaire documents
7_obsched.doc	Observation schedule
8_gpint.doc	Student group interview structure
9_tutint_single.doc 9_tutint_vis1.doc 9_tutint_vis2.doc	Tutor interview interview structures
10_reptemp.doc	Evaluation report template
11_fbackqnr.doc	Feedback questionnaire