

# BRITISH STANDARD BS 8426 AND ITS IMPLEMENTATION

## 1 An overview of BS 8426 and of BSI's rationale for producing it

### 1.1 Context & rationale

The British Standards Institute (through its technical committee procedures) produced BS 8426, *A code of practice for e-support in e-learning systems*, as a response to:

- increasing use of e-learning systems to mediate the provision of learning in a wide range of educational and other contexts;
- increased use of e-learning systems has raised issues about the quality and effectiveness of the e-support that learners receive.

### 1.2 Definitions

**e-support** is a “response, during e-learning, to a learner-, system- or tutor-interaction, the purpose of which is to facilitate effective, efficient and satisfying learning”. It includes things like automatic prompts, online documentation, tutor email, and all points between – but it does not include general help systems.

E-support can be provided in a number of ways as part of e-learning: automated via e-learning system; automated an integrated into learning materials; provided by people using computer-mediated communication. Many courses depend on combinations of all of these.

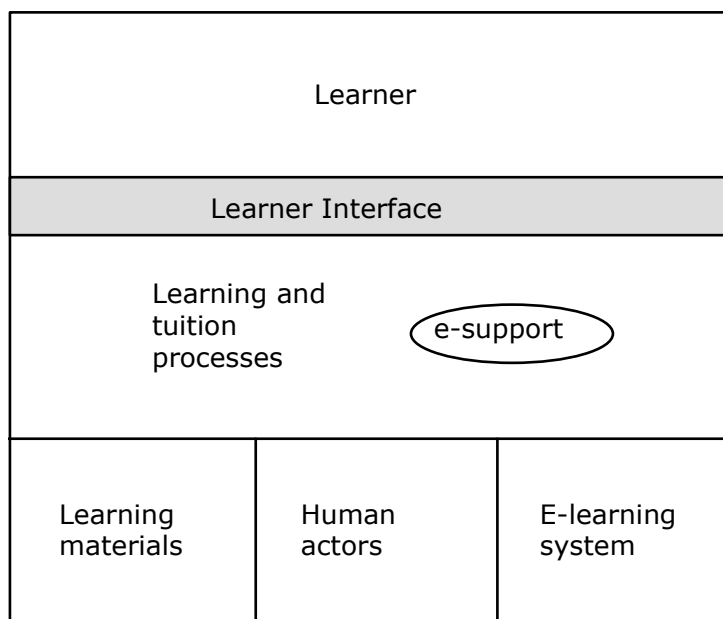


Figure 1 - E-support for learners in e-learning

A BSI **Code of Practice** recommends good, accepted practice. The recommendations are not ‘mandatory’ (they consist of ‘should’ statements). This contrasts with a **Specification** (which sets out detailed requirements, using the prescriptive ‘shall’, and the procedures for checking conformity) and with a **Guide** (which gives broad and general information about a subject). All BSI Standards themselves conform to BS 0 *A Standard for Standards*, which greatly constrains their format and structure.

### **1.3 Target users of the standard**

The target users of BS 8426 include all stakeholders in the provision, purchase and commissioning of e-learning systems, materials and services, from schools to corporations, and including accreditation bodies and funding organisations.

However, primary users are likely to be e-learning providers, who are recommended to review their provision to identify the parts of the learning materials, and of the delivery, dialogue and assessment process that are likely to need most e-support.

They should consider e-support provision when they:

- specify or procure e-learning systems;
- specify or procure learning materials for e-learning;
- recruit or train any tutors or other staff who communicate directly with learners.

### **1.4 Anticipated uses and benefits**

BS 8426 can be used for several purposes, including to:

- establish a consistent level of e-support to learners undertaking e-learning courses;
- assess the effectiveness of the e-support provided on a course;
- give an assurance of quality of e-support to users of “off-the-shelf” courses provided through e-learning systems, and to organizations providing, commissioning or purchasing e-learning systems, materials and services.

As well as providing a form of quality assurance, the benefits of applying the standard include:

- better retention and achievement rates for learners;
- less time spent on ‘low-level’ human intervention to tackle problems with learners’ progress, leaving more time for higher-level pedagogical interventions;
- greater levels of accessibility for e-learning, and higher levels of participation and inclusion in courses.

### **1.5 Scope and Recommendations**

#### **1.5.1 Scope**

The standard applies irrespective of the pedagogical approach to e-learning, for example:

- whether human tutors are involved in providing e-support or all e-support is automated
- whether learners work individually or in groups
- whether the underlying pedagogy of a course involves learners in constructing their own understanding or in committing course content to memory.

It does not specify whether support should come from systems or people, and applies independently of the type of e-learning system deployed.

Design and delivery of e-support depends upon the learning context, the learners, the environment, and the available technology. BS 8426 does not provide an overall guide for matching e-support to context – it is not intended to be a methodological ‘straitjacket’ in any way – but simply documents some best practice in areas where this has been established.

The BS 8426 recommendations include general principles and points on four kinds of e-support, with some underlying principles.

### 1.5.2 Principles

- Design should minimise need for support.
- Support should be clear, personally relevant, and motivationally effective.
- Support should be accessible in all intended contexts of use.
- Availability of support to judge the suitability of a course.
- Support should be designed to support the full diversity of needs in the target market.
- Use accessible formats wherever possible (and provide alternative formats where it isn’t).
- Minimize the effort for learners by making the path to initiate support as short as possible.
- Enable learners to choose appropriate routes through the learning materials.
- Support for practice activities should enable learners to build confidence and experiment without concern for consequences.

### 1.5.3 Four kinds of e-support

The four kinds of e-support for which BS 8426 provides further recommendations are as follows, with an example of a typical recommendation for each.

- **Process-related support** – information and assistance for learners following the learning processes that enable them to complete their course successfully.  
Example: If deadlines are important to the satisfactory progress or completion of a course, activity or section, learners should be provided with timely e-support that gives clear, relevant, and motivationally effective guidance about compliance with the deadlines.
- **Concept-related support** – for helping overcome any cognitive difficulty in grasping the concepts that underpin part of a course.  
Example: Learners should be provided with the opportunity to check their understanding of a concept at appropriate stages within the learning process.
- **Performance-related e-support** – helps learners and prospective learners to assess and improve their performance in relation to the learning objectives of a course, and the activities within it.  
Example: Feedback provided for formative purposes should:
  - a) be timely, to enable the learners to relate it directly to their performance, and prior to repeat performance;
  - b) take account of a learner’s previous performance on the course or task, if she has done it before;
  - c) relate to the learning objectives of the course or task;

- d) provide the learner with clear, personally relevant, and motivationally effective guidance on how to improve;
  - e) point to revision and/or extension materials, including, if appropriate, previous sections of the course materials, or further learning opportunities;
  - f) if appropriate, prepare learners for assessment, including selection of assessment level;
  - g) offer learners a means of obtaining further feedback.
- **Dialogue-related e-support** – assists learners in engaging in dialogue with other learners or with a tutor, or learning from previous dialogue involving other learners or tutors.

Example: If tools to underpin dialogue enable learners to communicate directly with their peers, procedures should be published and enforced to deal with circumstances where any learner or other user breaches the terms and conditions or otherwise abuses the facilities.

Depending on the time available, further examples from BS 8426 can be reviewed on screen.

## **2 Practical examples of BS 8426 in use**

### **2.1 Annex D explained**

BS 8426 has an Annex that provides an overview of the recommendations in checklist form, which can help evaluate both the applicability of, and conformance to, the conditional recommendations in this standard (n.b. use of this checklist is entirely optional; users can use whatever format they desire to demonstrate conformance). An extract is shown in Table 1. It comprises columns grouped as follows:

- abbreviated recommendations, numbered to allow cross-referencing with the full recommendation;
- applicability, for indicating whether the ‘if’ clause in a conditional recommendation applies or not;
- implementation, for example: if an e-learning system automatically identifies that a learner needs support and alerts the tutor to this, then both the System and Tutor columns would be checked;
- conformance, used to indicate which methods are appropriate for determining conformance to the recommendations.

**Table 1 – Applicability and Conformance Checklist**

Recommendations	Applicability		Implementation involves				Conformance tested through			Comments
	Yes	No	E-learning System	Materials	Tutor	Other	Inspection	Documentation	Other	
4.1 General principles										
a Systems, materials and processes designed to minimize need for remedial e-support.										
b E-support clear, personally relevant and motivationally effective.										
c E-support accessible to all intended users.										
d E-support available at all relevant times.										
e E-support not center-stage.										
4.2 E-support enables learners to understand:										
a scope and purpose of course/section;										
b type of activities/mode of learning;										
c success criteria for course/section.										
d level and types of e-support provided										
4.3 E-support takes account of:										
a technical competence, and/or										
b language, and/or										
c culture, and/or										
d disability, and/or;										
e learning preferences, and/or;										
f other (define if needed).										
4.4 If media-types are inaccessible, then content in alternative formats is provided.										
4.5 Path to initiate e-support on communication is as short as possible.										
4.6 E-support enables learners to navigate learning materials.										
4.7 If practice activities are provided, these are risk-free.										
4.8 Support-systems and tools are accessible, and function consistently, independently of any networks, or security systems.										

NOTE: In instances where a recommendation is determined not to be applicable, the basis for this determination should be specified in the "Comments" column.

**Table 2 – Completed Applicability and Conformance Checklist (Process-related support)**

Recommendations	Applicability		Implementation involves				Conformance tested through			Comments
	Yes	No	E-learning System	Materials	Tutor	Other	Inspection	Documentation	Other	
<b>5</b> Process-related support.										
<b>5.2.1</b> If not under provider’s control, learners’ hardware, software, and communications capability is checked.	N/A		Y				Y	Y		Undertaking LeTTOL is a pre-requisite
<b>5.2.2</b> Advice is provided on how to:										
<b>a</b> begin an activity;	N/A				Y		Y			Undertaking LeTTOL is a
<b>b</b> save work (if function available);	N/A		Y	Y	Y		Y			pre-requisite
<b>c</b> get help (if function available);	Y		Y	Y	Y		Y			“
<b>d</b> get feedback on performance (if function available);	Y		Y		Y		Y			“
<b>e</b> try again (if function available);	Y		Y	Y	Y		Y			“
<b>f</b> abort (if function available);	Y		Y	Y	Y		Y			“
<b>g</b> exit.	Y		Y	Y	Y		Y			“
<b>5.2.3</b> If relevant, deadlines are explained.	Y		Y	Y	Y		Y	Y		Principally through Project brief
<b>5.2.4</b> If learners might require it, additional e-support is provided.	Y				Y		Y			Tutor Support System
<b>5.2.5</b> Routes to human support are provided.	Y		Y	Y	Y		Y	Y		Tutor Support System

## 2.2 CIPD work by Terry Cowham

During 2004 CIPD and The Sheffield College commissioned Terry Cowham to review the CIPD Certificate in Online Learning (COL) course against BS 8426. Table 2 shows how Terry completed a part of the Checklist for COL. Here is a short edited extract from his report.

*Having been the External Moderator for COL since its introduction has placed the author of this report in a unique and privileged position with regard to both its development and quality. This has enabled access to tutor meetings, on-line conferences and email interviewing of learners e.g. External Moderator's Report on CIPD Certificate in On-line Learning (COL): Feedback from the 1<sup>st</sup> Learner Cohort (unpublished, March 2002), which provide a rich and valuable context.*

*The mapping exercise consisted of inspection the material identified above and:*

- *pre-course information and assessment;*
- *Learner Guides;*
- *course materials using learner walkthroughs;*
- *WebBoard forums.*

*This enabled completion of the Applicability and Conformance Checklist that forms the next section of the report.*

## 2.3 TUC work by David Jennings

As part of its Online Learning Strategy (available for download at <http://www.tuc.org.uk/learning/tuc-7380-f0.cfm>) the TUC is developing online versions of several of its courses. The strategy also committed to conforming as far as possible to established best practice, including BS 8426. This was first taken into consideration at the design and commissioning stage, when we worked through the BS 8426 checklist, identifying which recommendations were applicable (in this case, they almost all were) and what would be the best means of measuring the factors involved and demonstrating conformance.

Having done this, we re-presented the tabulated data to show the range of methods we intended to use, and which recommendations each method could address – see Table 3.

**Table 3 – Methods for Assessing Conformance**

Method	Areas covered
Inspection of pre-course information	General recommendations on learners understanding of course
Inspection of pre-course assessment	Process- and performance-related support
Inspection of learner guide	General, process- and dialogue-related support
Inspection of materials & learner walkthroughs (includes use of glossary, FAQs etc)	General, process- and concept-related support
Inspection of WebCT system	Process-, performance- and dialogue-related support
Inspection of group forums	Dialogue-related support
Inspection of Process Manual	Checking that concept-related support is current/updated
Learner survey	General, process- and performance-related support

Method	Areas covered
Monitor learner reports and system reports	General recommendations on quality and availability of support
Tutor reports & monitoring of tutor feedback	Concept- and performance-related support, particularly on formative feedback issues.
Technical/accessibility validation	General recommendations on accessibility of support

This is a broad range of methods and issues. Some of them have been included in the commissioning of a project evaluation, and can thus be included in activity (e.g. learners surveys) that would have taken place anyway. Others require special attention and extra resources. We will be testing conformance to different recommendations at different stages in the life-cycle: some elements can be built into design; others can only be measured when we have a pilot in place and can get feedback from learners.

### 3 Issues for discussion

The inclusion of these issues is not to preclude discussion of other points!

1. A BSI Committee's decisions broadly determine which standards are commissioned, with what brief. Any person or organisation can join the Committee on payment of a small annual fee. There is consultation built into the production process, and, subsequently, a formal public consultation before a standard is published. The aim is to ensure consensus (a.k.a. "the absence of sustained objection") before a standard is finalised. How suited is such a process to the fast-changing, unstable, "contested" e-learning domain?
2. Is the BS 8426 categorization of support interventions realistic?
3. How workable is the BS 8426 approach to conformance checking?
4. What if any value is the publication of standards like BS 8426 if purchasers of e-learning content, or providers of e-learning, have not heard of it?
5. With so many e-learning standards being "global", or at least developed internationally, what purpose is served by having e-learning standards developed at UK level?

### 4 Contact details

Seb Schmoller  
 312 Albert Road  
 Sheffield  
 S8 9RD  
 0114 258 6899  
<http://www.schmoller.net>

David Jennings, DJ Alchemi Ltd  
 14 Chequer Court, 3 Chequer Street  
 London  
 EC1Y 8PW  
 0845 230 6333  
<http://alchemi.co.uk>