Content Advisory Board (CAB)

Report to the Secretary of State

Report no. 1

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May 2004

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CAB terms of reference

To advise the Secretary of State for Education and Skills on the performance of Curriculum Online in relation to the development of a comprehensive range of online learning resources for schools…. Within this, the specific objectives are:

- To undertake gap analysis of the range, breadth and depth of curriculum subject areas covered (Objective 1)

- To consult on a regular basis with the independent market analyst (appointment by the Secretary of State) on matters relating to the development of the digital content market before making recommendations (Objective 2)

- To consult on relevant public and private sector content commissioning plans and expenditure (Objective 3)

- To regularly assess the impact of e-Learning Credits (possibly by market category or subject) in stimulating the market (Objective 4)

- To monitor public-sector involvement in Curriculum Online (Objective 5)

- To consider any matter that inhibits the effective delivery of Curriculum Online (Objective 6)

This is the first in a series of Content Advisory Board (CAB) reports to the Secretary of State on the performance of Curriculum Online (COL). The report has been produced taking account of the objectives provided to CAB as part of its terms of reference and the specific requests set out in the Secretary of State's letter to the Chair of the CAB (dated 23 March 2004). Our next full report will be provided in December 2004, with a progress update in October 2004.

The wider policy/market context for the report includes:

- a continued emphasis on the importance of embedding of ICT into teaching and school practice

- the existence of significant levels of ring-fenced funding for content, in the form of e-Learning Credits (eLCs) in England

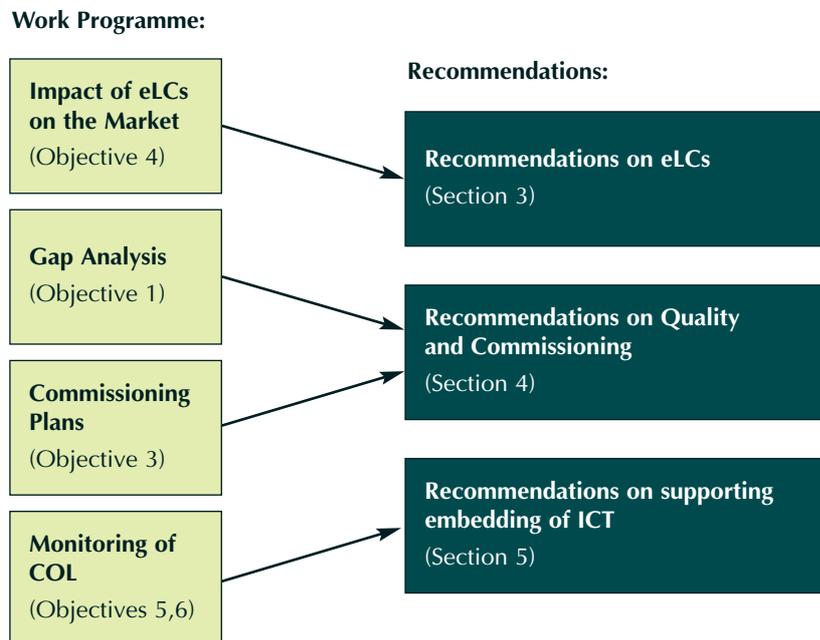- the need to take account of the EU State Aid ruling in relation to the BBC digital curriculum.

It should be noted that at the time of writing the BBC's five-year commissioning plans (including detailed plans for the first year) have not been published. The report and its recommendations reflect work already completed, as well as work that is under way or planned by CAB – including a review of COL, a survey of teachers and ICT co-ordinators; and more detailed work on quality. One can expect a stronger emphasis on issues associated with the effective use of Curriculum Online in our next report. More details of the emerging conclusions and the work programme are set out in section 2 below.

The rest of the report is organised primarily around three groups of recommendations.

- Section 3 provides recommendations relating to e-Learning Credits, and covers (i) the current eLC allocation, (ii) whether and how to continue ring-fenced financing beyond 2006, (iii) streamlining the process of collecting and using eLC expenditure information and (iv) other issues relating to the Department for Education and Skills' (DfES) engagement with the private sector.

- Section 4 focuses on recommendations around the quality of content and the role of Government in commissioning. This covers (i) a possible research agenda to identify quality benchmarks and to develop frameworks for evaluating content and (ii) the options available to Government to stimulate or commission the development of high-quality content.

- Section 5 makes a number of preliminary recommendations on possible mechanisms through which DfES/Becta could support embedding of ICT – including improving the information available to teachers through COL as well as the potential to improve value for money through aggregation of purchasing.

- Section 6 briefly suggests how CAB might work with the BBC taking account of CAB's terms of reference – particularly in relation to commissioning and the analysis of gaps.

Figure 1 below illustrates how the work programmes feed into each group of recommendations.

Figure 1 – Work programmes and recommendations

Work Programme:

Recommendations:

Impact of eLCs on the Market (Objective 4)	→	Recommendations on eLCs (Section 3)
Gap Analysis (Objective 1)		Recommendations on Quality and Commissioning (Section 4)
Commissioning Plans (Objective 3)		
Monitoring of COL (Objectives 5,6)	→	Recommendations on supporting embedding of ICT (Section 5)

Executive summary

(i) eLCs (Section 3)

Recommendation 1

We recommend that the Secretary of State give consideration to announcing:

- the intention to provide ring-fenced eLC funding in 2006–7 and 2007–8. The level of such funding would depend on the outcome of the spending review and consideration closer to the date on the state of the market and the impact of eLCs – including advice to be provided by CAB.

- that CAB will be asked to consider and provide recommendations (taking account of the issues outlined in section 3.1) on:
    - whether and what changes might be made to the policing of the eLC eligibility rules – particularly the rules relating to the amount of support materials (such as hardware, print and peripherals) that may be packaged with content or software (the 80:20 rule).
    - the case for using an element of eLC funding to support (i) research; and (ii) commissioning from 2005–6 onwards (see also recommendations 3 and 4)
    - whether it would be possible to make a further marginal change in the definition of eLC product eligibility to increase teachers' choice, without substantially undermining the industry support objectives of eLCs.

Recommendation 2

CAB has a number of detailed recommendations to streamline the process for collecting the information on COL sales and improving its value to market participants (see section 3.2). Key elements of the recommendation are as follows.

- Suppliers should be asked to provide sales data for all COL registered products sold to English state-maintained schools and LEAs. Subject to further consultation with the industry, companies should continue to be asked to provide information on each purchase by school.

- The high-level data should be published quarterly, with more detailed information made available to companies that submit the data (in a way that protects confidential information). The form of data to be published and provided to companies should be agreed with the private sector.

- The Department (or Becta) should retain control of the information-gathering process, but it may be appropriate to involve external resources over a short initial period of time to put the process on a sound footing.

Recommendation 3

We recommend that the Department/Becta should establish an annual meeting with the private sector in order to present (i) the outputs from ongoing research and work programmes; (ii) developments in policy thinking. As part of this, we recommend that the information used to inform CAB's reports to the Secretary of State be brought together in the form of an annual market report.

(ii)   Quality and commissioning (Section 4)

Recommendation 4

We recommend that Becta/DfES fund new research to improve the evidential base on quality and effective application of digital learning resources. The objectives of the research should be:

- to evaluate the quality and application of specific products being used by teachers and learners (contributing to the gap analysis) with reference to improvements to classroom practice and learning outcomes

- to draw lessons on 'what works' in general and by subject discipline, in terms of (i) teacher practice and (ii) content design and characteristics.

Recommendation 5

We propose that CAB/Becta consider and provide recommendations to the Secretary of State covering:

- the case (if any) for further commissioning in the light of an assessment of (i) market failure, (ii) existing BBC and private-sector commissioning plans, (iii) the extent to which eLC funding is achieving its objective of supporting private-sector production of high quality product and (iv) the practicalities of such intervention

- if appropriate, suggestions on timing, scope and approach to such commissioning.

Recommendation 6

Becta should continue to take the lead in encouraging the industry to develop and implement technical standards in line with the e-gif[1] that will enable the widest possible degree of interoperability (see section 4.3).

In addition, as part of this remit, consideration should be given to the role played by Becta in ensuring that the suppliers comply with these technical and interoperability standards. As a minimum this might include commenting on whether standards are being met. This is particularly important in relation to suppliers who have the potential to dominate the market (including the BBC).

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[1] e-Government Interoperability Framework. The e-GIF defines the technical policies and specifications governing information flow across government and the public sector. It covers interconnectivity, data integration, e-services access and content management.

(iii) Supporting embedding (Section 5)

Recommendation 7

We recommend that the Department/Becta:

- provide details of the leading products by sales (from information provided in COL returns) on the COL website, to enable teachers quickly and easily to see the products that are being purchased by their colleagues

- give consideration to mechanisms to improve and focus COL product evaluations on the leading products

- use the COL site to promote those products that have received BETT awards and a shortlist of runners-up who reach an agreed quality threshold

- consider ways in which the COL site might be used to demonstrate how some or all products can be used: this might be bespoke material from suppliers, or could draw on some of the material that has been developed as part of the embedding agenda

- link the COL site to Becta's ICT Advice site – with advice on procurement and quality assessment.

Recommendation 8

We recommend that DfES/Becta:

- prioritise consideration of the potential for electronic procurement to achieve aggregation benefits and reflect the initial purpose of the COL proposal

- consider whether it is possible to achieve aggregation benefits on a case-by-case basis – for example in relation to the promotion of exemplar products.

Recommendation 9

The Department/Becta should give further consideration to ways to improve the availability of in-service support and training (in purchasing and use of content, for instance) – delivered through a mixture of LEA, subject association and ICT consultant support.

Recommendation 10

The Department should consider other mechanisms for encouraging the use of ICT, for example (i) increasing its profile within Ofsted inspections, (ii) providing clearer examples of ICT application in new versions of QCA schemes of work and (iii) encouraging e-assessment.

(iv) Interaction with the BBC (Section 6)

Recommendation 11

Subject to the Secretary of State's satisfaction with the proposals in this report, we recommend that CAB be asked to formally present the results of its work programme to the BBC – with particular reference to any implications for the distinctiveness and/or complementarity requirements (as set out in the DCMS licence approval).

This section provides a summary of the key conclusions arising out of CAB's work programme. These conclusions inform the recommendations set out in sections 3–5 particularly. Annex 1 provides a summary of CAB's work programme, including details of work completed, under way and planned.

2.1 Impact of eLCs on the market

We take the objectives of the introduction of eLCs to be twofold, reflecting the perspectives of both DfES and the Department of Culture, Media and Sport (DCMS):

- to support the embedding of ICT and the resulting transformation of teaching through the use of ICT by (i) improving availability of funds for the purchase of digital content and (ii) increasing school/teacher awareness of the potential of ICT and digital resources.

- in the context of the BBC's investment in its digital curriculum, to support the continued development of a commercial market for the production of high-quality digital learning resources (DLRs).

2.1.1 Size and composition of the market

The starting point for CAB's analysis of the impact of eLCs on the market for digital learning resources has been to seek to understand the market's[2] size and composition. However, the results should be treated with reasonable caution, given the incompleteness of available survey information.

The market has seen steady growth since 1998–9 with the possible exception of 2002–3. Our work suggests that the level of spend in English state-maintained schools in 2002–3 was in the range £50m-£65m.

For the current financial year (2003–4) our analysis suggests that there will be a fairly significant increase to around £70m–£80m. We believe that this is consistent with the conclusion that eLCs have had a significant impact on the size of the content market – increasing spend broadly in line with their allocation[3]. It is also consistent with the understanding that pre-existing levels of spend have been subsumed within the larger eLC funding: that is, that eLC funding has substituted for other sources of funding for content.

In addition, our analysis suggests that the monthly eLC returns data available to DfES is significantly understating the actual levels of spend. This reflects companies reporting sales on very different bases and some major companies not providing any returns. Recommendations on streamlining and improving the reliability of eLC data are set out in section 3.2.

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[2] We take the definition of digital learning resources to be that used to define eligibility for eLCs.

[3] The analysis of the size of the market is complicated by the fact that eLCs are issued on an academic-year basis, but the survey information on spend is on a financial-year basis.

As eLCs increase above the historic level of spend on digital learning resources (to £100m in the financial year 2004–5) there may be increased levels of leakage. For example, there is evidence of some leakage occurring as result of suppliers or schools stretching the 80:20 rules on eligibility[4]:

- companies are able to leave software prices artificially high to increase the amount of support materials such as hardware, peripherals and training included as part of the package
- companies are 'giving away' support or other curriculum materials such as books as part of the sales package – perhaps instead of offering discounts on the content price for longer-term subscriptions or larger purchases.

Section 3.1 provides a recommendation on this issue. A related point here is the lack of aggregation obligations on suppliers. This contributes to suppliers' ability to stretch the spirit of the eligibility rules (by leaving software prices 'artificially' high). Perhaps more importantly, though, it means that there is potential to improve the value for money achieved through eLC purchasing.

The COL registration database (as at February 2004) indicated that there were 11,084 unique products, of which 65% were marked as priced and the remaining 35% as free. The priced products were provided by 454 companies or organisations. Figure 2 shows the number of priced products by major subject area and learning resource type. Further work is under way to improve the accuracy of the COL registration database.

Figure 2: Number of priced products by major subject area and learning resource type
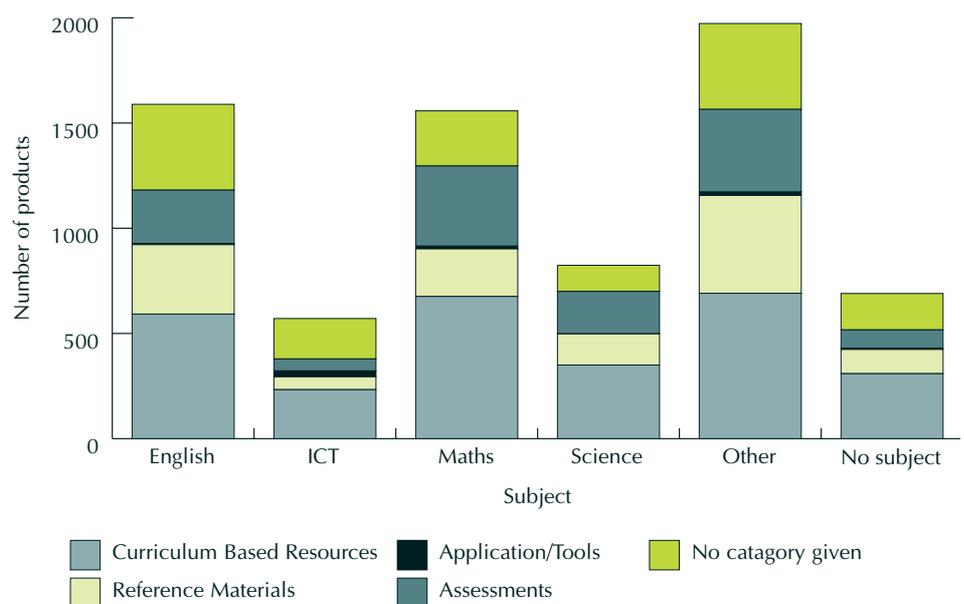
We have analysed eLC sales returns to investigate the products that schools are purchasing in terms of company, resource category and product code. Subject to the data 'health warnings', this analysis indicates that teachers tend to purchase well-established products from known suppliers:

- Despite the very high number of registered products and suppliers, spend is concentrated on a relatively small number of suppliers – 61% of spend goes on 2% of registered suppliers of priced product (10 companies). These suppliers provide only 12% of the registered products.

[4] Up to 20% of eLC expenditure on a COL-registered product may be for printed material, training, peripherals and hardware.

- Further analysis of eLC reported spend on specific products shows that 48% of spend in 2002–3 related to the most popular 20 products. Relatively few of the top products (as recorded in eLC returns) were published after 2001.

The concentration of spend amongst a relatively small number of suppliers adds weight to the view that there is an opportunity to improve value for money through aggregation of procurement (see section 5.1.2).

Figure 3 provides details of publication dates of priced products by subject. The most pronounced trend is the recent increase in products in the non-core subjects and in science. We have also carried out this analysis by key stage, resource type and aggregation level – as part of the 'gap analysis'.

Figure 3: Number of priced products by year of publication and major subject area
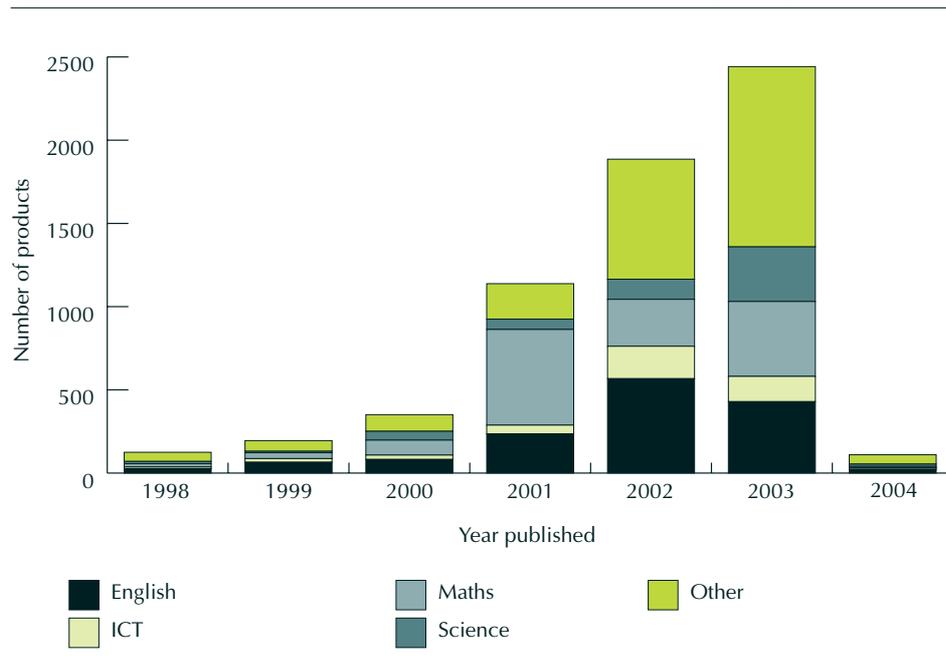
2.1.2 Impact of eLCs on the embedding of ICT – school, teacher or LEA behaviour

Our findings thus far are based on the DfES and BESA surveys, the BETT 2004 survey and an interview-based survey of LEA advisers.

In summary, we observe that the use of ICT is increasing across the curriculum. This reflects the full range of government policies in this area – as well as the introduction of eLCs. For example, our survey of LEA advisers indicates that investment in electronic whiteboards or digital projection facilities and funding for laptops for teachers have been important factors. As part of this, we believe that eLCs have had an impact (after a slow start) in increasing awareness of the availability of digital learning resources. But more remains to do.

Both public and private sector participants have expressed concerns that purchasing decisions last year were not particularly well organised – reflecting a lack of awareness of eLCs, the introduction of eLCs in the middle of the school year or the level of resources available compared with the level of teacher practice. The risk is that this will have a detrimental impact on embedding if a product is purchased and not used.

Nonetheless, there is anecdotal evidence to suggest that schools are starting to use the development planning process to identify software needs, but that the level of analysis differs significantly across schools – reflecting marked differences in the culture in relation to use of ICT across all elements of school activity.

Further work is ongoing to improve our evidence base – including a postal and web-based survey of ICT coordinators and teachers. This survey will consider (among other things):

- school views on the level of eLC funding compared with budgets for other ICT and non-ICT priorities
- how schools and teachers make purchasing decisions, including whether this has been affected by the introduction of eLCs
- some details of the types of products being purchased with eLCs and whether they are being well used.

2.1.3 Impact of eLCs on investment and the market

Our findings on the impact of eLCs on private sector investment are based on an interview-based survey of a number of companies, the COL product database and eLC returns data.

- The evidence suggests that eLCs have had a positive impact on investment. This effect clearly varies between the different types of companies operating in the market. A number of companies indicated that eLCs had made investment decisions easier or that they had restored some investment in curriculum-based resources that had been scaled down during the period of uncertainty in the market (2000–02).

- The impact of eLCs on investment must be seen in the context of the BBC's proposed market entry. There is evidence to suggest that, prior to the July 2003 eLC announcement, a number of companies either reduced investment or were slower to enter the market as a result of the BBC's proposition. The area most affected by the BBC's proposed investment was the development of curriculum-based resources – as opposed to research and development (for VLEs) in educational software platforms, product maintenance and applications or tools.

- The time-horizon for eLCs is having an impact on the type of investment being carried out by the private sector. In particular companies are focusing on investments which are able to achieve pay-back before the end of the academic year 2005–6, which is when eLCs are currently due to end.

- Channels to market are clearly important in determining the ability of companies to benefit from eLCs. There is an indication that some companies are investing more in marketing and distribution networks in response to eLCs than in new product. Other companies are finding the investment in channels to market prohibitive.

- A few companies are taking a relatively long-term or 'bullish' view of the market. The BBC has therefore not overly affected their investment plans. For these companies the presence of eLCs has provided added comfort to investment plans – although not necessarily increased them materially.

2.2 Amenability and gap analysis

2.2.1 Amenability analysis

Since the last CAB meeting Becta has carried out analysis of the amenability of learning outcomes to being taught using ICT. The purpose of this work is twofold:

- to begin the process of informing Becta/CAB judgements about the areas of the curricula[5] where use of digital resources has the greatest potential impact on learning outcomes – this information is also necessary for CAB to make judgements in due course about gaps in provision
- to inform Becta's role in relation to ensuring that the BBC does not produce resources that cover more than 50% of the learning outcomes amenable to being taught with ICT.

[5] Including England, Scotland, Wales and Northern Ireland.

The approach used was to assess amenability (using a defined grading system) of the 'learning' requirements in the UK national curricula guidelines. The analysis was carried out using review teams assembled by Becta for each of 12 curriculum subjects. The reviewers were experts drawn from UK curriculum learning and teaching bodies, subject associations and independent consultants specialising in ICT. The results of the analysis are currently being written up. It should be noted that the process of defining amenability will be one of reiteration influenced by developments in curriculum design and emerging technology.

Consideration has also been given to how the analysis can be used to measure 50% of each subject's learning outcomes. The main issue here is how to treat subjects where some or all curriculum learning outcomes are integral skills. For subjects with a large proportion of such requirements, the measurement of the 50% will relate to the number of units of work or topics covered within a subject key stage.

2.2.2 Gap analysis

Since the last CAB meeting, further work has been done to assess the availability of product across the curriculum. This work has focused on quantitative rather than qualitative analysis, using the COL product-registration database. The analysis has covered maths (Key Stage 1), science (Key Stage 2), English (Key Stage 3), French (Key Stage 3), and geography (Key Stage 4). For each subject and key stage the work has considered: the number of free and priced products supplied; changes in supply over time (by learning resource type and level of aggregation), the most widely purchased products (based on the eLC returns database) and how the products have been tagged.

This analysis is available on request; however, its primary purpose has been to inform the proposed work on quality assessment. For example for Maths Key Stage 1 the analysis suggests that there is good coverage of materials in terms of learning resource type and scale. Figure 4 below provides details of the publication dates of Maths KS1 products by learning resource type.

Figure 4: Priced maths Key Stage 1 products by learning resource type
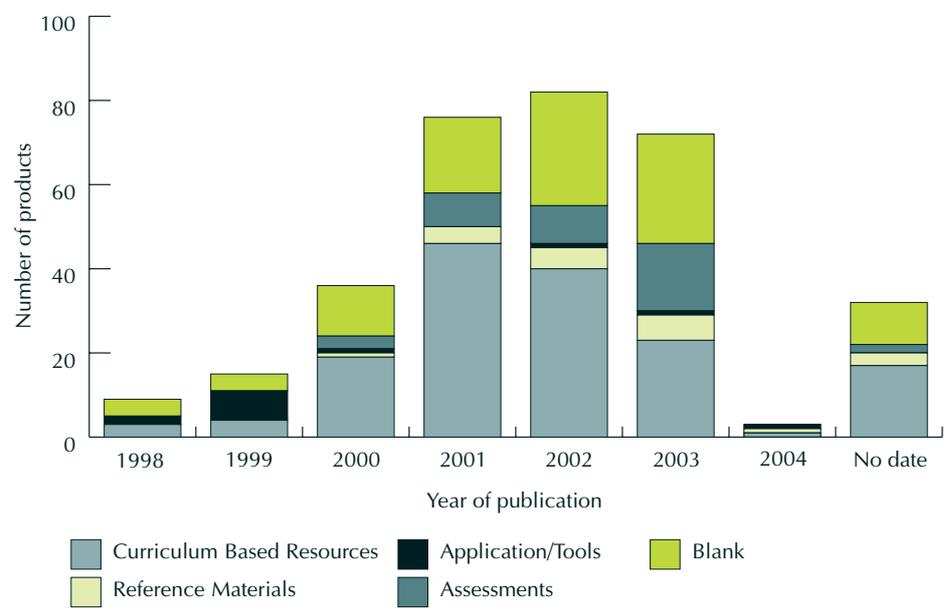
Improving eLC returns information will make it possible to publish information on leading products by subject and or key stage. This analysis will inform both prioritisation of specific product evaluations and provide information that could be used to support purchasing decisions and embedding (see section 5).

Further work on qualitative assessment of existing products and identification of gaps is planned for the next year. This includes the following.

- Carrying out research to explore teachers', ICT co-ordinators' or consultants' perceptions of current resources, gaps and current and future needs – this work will include use of survey material and expert analysis. An example of the value of this work is the feedback that Becta received from the geography subject experts that took part in the amenability work. They noted an apparent gap in the market in terms of products with interactive geographical models – for example of a river catchment area – where students can adjust variables (such as relief, weather and land use), make predictions and then see the alternative outcomes that result.

- Work to improve the criteria for measuring quality and value for money – this work is being carried out primarily to help inform the BETT awards process. But it will also be important in developing a more comprehensive evaluation of existing and future products.

2.3   COL website

A sub-group of CAB members presented a paper at the December 2003 CAB meeting on primary and secondary teacher responses to the COL website. The group concluded that the previous version of COL was not achieving its objectives, and that the search functionality was difficult to navigate and use. The paper recommended that the development of COL should be more focused on the requirements of teachers rather than on technological requirements – for example to include exemplification of learning objects, e-learning and the new roles for teachers and learners that this implies.

A further paper has been commissioned for the June meeting to bring together the available evidence on the performance of COL for CAB discussion. The evidence includes the Bristol University DfES survey; various interview-based surveys (discussed above); and information provided by DfES on page impressions, unique users. We also intend to supplement this evidence by including a number of questions in the web-based survey on COL usage.

Recommendations on COL will be included in future CAB reports.

This section sets out a number of recommendations in relation to eLCs – which reflect CAB's overall conclusions to date. It includes (in section 3.2) the specific recommendations requested by the Secretary of State in relation to streamlining the eLC returns process.

On the basis of the available evidence, CAB believes that eLCs have had qualified success in achieving their objectives of (i) increasing school/teacher awareness of the availability and potential curriculum usage of content and (ii) underpinning private sector involvement and investment in the sector in the light of the BBC proposals. The key qualifications are:

- that eLCs have had relatively little impact to date on improving practice by schools and teachers

- that private sector investment decisions can only be made in the context of reasonable market certainty over the medium to long term. The time to market of product can be anywhere from nine to 36 months (depending upon its scale and complexity) and the expected payback period somewhere between one and three years. The time-limited nature of eLCs and the unknown impact of the BBC's involvement both constrain the type of private-sector investment – and in particular whether new, larger, innovative products are being developed.

3.1 eLC allocations and eligibility rules

The policy issues and questions for consideration are:

- whether any changes should be made to the existing eLC allocation for academic years 2004–5 and 2005–6 in terms of (i) level and (ii) eligibility definition

- whether there is a case for announcing now the intention to provide eLCs or another form of ring-fenced funding beyond 2005–6 (that is, for years 2 and 3 of the next spending review – 2006–7 and 2007–8)[6].

We discuss these in turn below before providing a recommendation that seeks to bring the issues together.

3.1.1 Current allocation

We believe that there is a strong case for continuing ring-fenced funding for COL products in 2004–5[7] and 2005–6, both from the perspective of increasing awareness among teachers and supporting the private-sector market.

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[6] Year 1 of the spending review is 2005–6 – the last year of the existing eLC allocation.

[7] We are aware that the 2004–5 Standards Fund eLC allocations have already been communicated to LEAs.

Table 1 sets out a number of policy options and issues that relate to the level of eLCs and eligibility definitions.

Table 1 – Policy options and issues

Issue/Option	Description
Reduce eLCs	Reduce the annual eLC allocation and allow the difference to be spent on either (i) other content-related ICT priorities eg to fund commissioning of content, or research; (ii) other wider ICT priorities – eg the purchase of peripherals, whiteboards etc
eLC eligibility	Change the eligibility definition for eLCs to include products that can be used to teach the curriculum but which have not been specifically produced for the purpose
80:20 Rule	Tackle the apparent 'abuse' of the 80:20 eligibility rule for digital content and support material

In considering whether these (or other) changes might be made, the Secretary of State may wish to take account of the following observations.

- It is relatively early days in terms of the introduction of the eLC policy. Increasing awareness and usage of content will take time.

- Early and/or major changes in either the levels or definition of the current eLC allocation are likely to be opposed by the private sector companies with eLC-eligible product. And there is a risk that it would undermine the relationship of the Department with the private sector – with negative implications for the effectiveness of any future policy announcements.

- CAB is not in a position to make legal judgements. However, the Department will be aware that the EU State Aid ruling has important implications for the degree of freedom that it has to make changes. The Department will also be aware of the context for the DCMS approval of the BBC digital curriculum.

- Notwithstanding this, there is a reasonable case from an educational perspective to argue that the cumulative total of eLCs over the four academic years is too high[8]. £100m per annum is significantly above historic levels of spend, and there is evidence that purchasing behaviour – although improving – has been poor. Over the next two years there is therefore a risk that (i) school purchasing power runs ahead of practice, culture and (potentially) hardware availability – resulting in poor procurement and low uptake of eLC-purchased resources, and/or (ii) schools will increasingly regard eLC ring-fencing as restrictive – resulting in increased levels of leakage.

- Top-slicing an element of the current eLC allocation and putting it into other areas of the content market would be one way to ensure that some of the resources are used to promote investment in new and innovative products – including those that support the use of new technology or functionality. However, this is not without problems (see section 4).

- Excluding products from eLC eligibility on the basis that they have not been specifically produced for use as a curriculum learning resource is not optimal from schools and teachers' perspectives. However, it is it difficult to see how the definition can be changed in a way that does not risk significant leakage that potentially undermines both the embedding and private sector support objectives. In addition, we understand that some of the products with clear educational benefit are being reversioned for schools – which would then make them eligible for eLCs. Again, the EU State Aid ruling has implications here.

- Consideration should be given to the ways in which DfES/Becta might ensure that suppliers live within the 80:20 rules. However, an appropriate response should recognise the competing perspectives here. On the one hand the abuse of the rules undermines the potential achievement of the eLC objectives – from both the school and market perspectives. But equally, some packaging of material and/or offering of free goods is part of normal commercial activity and may be in school or teacher interest.

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[8] It is not clear that the EU State Aid decision rules out changes to the level or type of support.

3.1.2 Future allocation (2006–7 and 2007–8)

Table 2 sets out possible policy options on eLCs that the Department may be considering as part of the spending review process.

Table 2 – Policy options

Policy Option	Description
End eLCs	End ring-fencing of eLCs but leave resources within schools, either (i) in Standards Fund for ICT budgets or (ii) through standard spending assessment allocations.
Continue eLCs	Continue with some level of ring-fenced eLC funding for content (wider or narrower definition)
Delay decision	Seek level of funding within the spending review to cover appropriate ICT budget – content, hardware, training and connectivity. But delay the decision on ring-fencing – for content

In considering these (and other) options, the Secretary of State may wish to take account of the following observations.

- Announcing the intention to continue eLCs in 2006–7 and 2007–8 will have a positive impact on the private sector's ability to make investment decisions now. The size of the effect (and therefore the success in underpinning the market) will depend on the level and strength of the commitment, and how companies respond to the emerging BBC commissioning plans. As with the current eLC allocation, the Department will be aware of the implications of the EU State Aid ruling.

- It is not possible to make judgements now about the appropriateness of further ring-fencing from the perspective of teacher awareness and embedding.

3.1.3 eLC recommendation (Recommendation 1)

CAB's judgement is that there is a case for the Department to revisit a number of aspects of the eLC policy. We believe that this should be done in the context of some confirmation from the Department of the continued importance of eLCs (or other ring-fenced funding for content) in supporting the market and in increasing awareness among teachers.

We therefore recommend that the Secretary of State give consideration to announcing:

- the intention to provide ring-fenced eLC funding in 2006–7 and 2007–8. The level of such funding would depend on the outcome of the spending review and consideration closer to the date on the state of the market and the impact of eLCs, including advice to be provided by CAB

- that CAB will be asked to consider and provide recommendations (taking account of the issues outlined in section 3.1) on:

  - whether and what changes might be made to the policing of the eLC eligibility rules – particularly the rules relating to the amount of support materials (such as hardware, print and peripherals) that can be packaged with content or software (the 80:20 rule).

  - the case for using a small element of eLC funding to support (i) research; and (ii) commissioning from 2005–6 onwards – taking account of concerns outlined above (see also recommendations 3 and 4)

  - whether it would be possible to make a further marginal change in the definition of eLC product eligibility to increase teachers' choice, without substantially undermining the industry support objectives of eLCs.

3.2 eLC returns process (Recommendation 2)

Following the March 2004 CAB meeting, CAB/Becta convened a small group of private- and public- sector market participants to discuss in more detail CAB's recommendations in relation to improving the eLC returns process.

Table 3 below summarises CAB's recommendations, taking account of the outcome of the group discussion. They cover (i) the data to be collected, (ii) the technical arrangements for collection and (iii) publication and payment. Annex B provides further detailed recommendations on the technical arrangements and publication of information.

Table 3 – Recommendations on streamlining the eLC returns process

No.	Area	Summary of recommendation
1.	**Data fields**	The requirement for suppliers to submit the name and postcode of purchasing schools should be maintained, but steps should be taken to ensure that the data collected is of sufficient quality to support analysis of sales by region.
2.	**Products**	Ensure that all suppliers are aware of the revised DfES guidance to provide sales data for all COL-registered products sold to English state-maintained schools and LEAs. As part of this, suppliers should be asked to supply the same data (or possibly only by product) for the full financial year 2003–4 – if possible, by month.
3.	**Sanctions**	Suppliers who do not provide the required data or who constantly fail to send in correctly formatted returns will not be entitled to receive detailed industry-wide data. (Note: this also means that their products would not be included in published information on products being sold – see section 5)
4.	**Format**	We recommend that, in the short term, the format for data collection continues to be an Excel spreadsheet submitted via e-mail, amended to improve error trapping. We recommend that DfES investigate alternative solutions which could be implemented in the longer term - for example an SQL system accessed via the internet or a full e-payment system.
5.	**Process**	We recommend that DfES use external resources for, say, the next six months to streamline the data-collection process, put the survey on a sound footing and develop a set of standard reports.
6.	**Costs**	DfES should meet the costs of putting the survey on a sound footing and the costs of the initial and ongoing analysis requested by public-sector bodies.
7.	**Publication**	The high-level data should be published on a quarterly basis, with more detailed information made available to companies that submit the data (in a way that protects confidential information). The production of the report would be financed by a small subscription fee. In addition, an annual summary would be published free of charge.

3.3 Private sector interaction (Recommendation 3)

CAB has sought to keep the private sector informed of the emerging conclusions emerging from its work programme – by publishing CAB papers and through regular meetings between the CAB Chair (Owen Lynch) and various private sector participants prior to each CAB meeting.

In order to continue this interaction with the private sector, we propose to produce an annual market analysis report which will bring together the evidential basis for our reports to the Secretary of State.

We recommend that consideration should be given to whether this report be presented to the private sector at an annual briefing by the Department/Becta – to cover both (i) details of the Becta/DfES work programme and (ii) developments in policy thinking. This meeting would be open to all interested parties.

The Secretary of State's letter of 23 March 2004 also requested that CAB give particular consideration to how the Department can escalate the development of high-quality digital learning resources. We present three recommendations for consideration here.

4.1 Research agenda on quality (Recommendation 4)

Understanding the different dimensions of quality – particularly from the perspective of education needs and requirements – is central to CAB's remit. We also believe that it is a prerequisite for any further attempt to improve the quality of product available in the market, regardless of who produces it.

CAB/Becta's existing work programme involves seeking to assess quality through survey and through expert opinion. There is a strong case to supplement this with a more detailed evaluation of products and of effective application in the classroom. The objectives of this research would be to:

- evaluate the quality and application of specific products being used by teachers and learners (contributing to the gap analysis) with reference to improvements to classroom practice and learning outcomes

- draw general lessons on 'what works' in general and by subject discipline, in terms of (i) teacher practice and (ii) content design and characteristics.

Key elements of the proposed approach would be as follows. The products to be evaluated would be chosen by CAB/Becta on agreed criteria – to include level of usage, perceived level of amenability and importance in relation to achieving learning outcomes. The assessment of usage would include information from the eLC returns process on purchases, as well as the information from the most recent Fischer Family survey.

The evaluation of each product would be carried out over a number of schools – to ensure that the sample size is sufficient to draw general conclusions. It would draw on the framework for quality assessment – which is currently part of the CAB/Becta work programme. The evaluation results would be disseminated both to practitioners and to public- and private-sector producers.

In order to carry out this detailed evaluation work, significant resources would need to be made available to Becta/CAB. Consideration should be given to whether this resource might be top-sliced from the eLC allocation or whether it should be additional.

4.2 Commissioning plans (Recommendation 5)

One of CAB's conclusions to date is that although eLCs have had an impact on the market, they have not led to a major change in product investment or quality. As discussed above, part of this may relate to the time horizon of eLCs and the uncertainty associated with the BBC investment.

An approach that could be used to supplement the impact of eLCs would be for the Department to support private-sector investment directly (through commissioning of products of significant size and quality). There are differing views in the market on whether or not this would be a good idea. In particular, the Secretary of State may wish to consider the following observations.

- In advance of more information on the coverage, quality and type of products to be developed by the BBC, it is difficult to make judgements about the need for additional commissioning. In general we believe that commissioning of products by the Department is most likely to be appropriate when (i) it is clear that there is not a commercial case for investment by the private sector and (ii) where development risks are particularly high. Both of these factors point away from any intervention. In addition, the practicalities and costs of running a fair and transparent tender process may be prohibitive.

- However, given concern about the level of eLCs (and the risk that purchasing power runs too far ahead of practice), there is a case for top-slicing some of the eLCs to support a small amount of commissioning. The argument for this proposal would be that it would continue to use resources to support the private-sector market – in line with EU State Aid ruling – but may be a more cost-effective mechanism for achieving increases in quality product.

We recommend in section 3.1 that CAB/Becta be asked to consider specifically the case for additional commissioning and to provide recommendations to the Secretary of State. This work should cover:

- the case (if any) for further commissioning in the light of an assessment of (i) market failure, (ii) existing BBC and private sector commissioning plans, (iii) the extent to which eLC funding is achieving its objective of supporting private-sector production of high-quality product and (iv) the practicalities of such intervention.

- if appropriate, suggestions on timing, scope and approach to such commissioning.

As part of this analysis, CAB/Becta would need to consider in detail the impact of introducing a third mechanism for the development of content in the market (in addition to the BBC, and to private provision supported by eLCs). It will also need to consider carefully the practicalities associated with commissioning. Some of these issues will have important policy and legal implications. For example, the private-sector partner should be incentivised to ensure that the product reaches and is purchased by schools. This almost certainly means that Departmental funding should be matched by private-sector funding (in cash or in kind). However, agreeing an approach to pricing would need to take account of the range of issues around state aid and further potential distortion of the market.

4.3 Product standards (Recommendation 6)

In addition to issues relating to quality, there is a need to ensure that individual products and user environments meet a set of agreed technical standards. In due course these standards might need to be incorporated into the requirements for COL products. Becta already has a remit to agree with the industry the development and implementation of a set of standards that will facilitate the widest possible interoperability in the future.

The main interoperability issues include the following.

- Interoperability for resource discovery. The metadata for and the tagging of products should be consistent to allow common search functionality. There is also a need for research into potential requirements for the persistence and application of new metadata.

- Content packaging. Rules are required in relation to the information provided about how content resources run in different content management packages (such as MLEs or VLEs)

- Learning platform conformance. In addition to the above there are interoperability issues between content objects and the different platforms on which they run – for instance, to exchange information on the user and any assessment results

- Disaggregation level. There are also important issues that relate to the level of disaggregation of product by users – that is, the extent to which teachers have the flexibility to pick only a component of a product (and to put it together with other material), rather than to use a packaged product.

There is also a range of interoperability issues with regard to the relationship between content management and delivery packages and existing administration and pupil management software (MIS) which will need to be addressed.

There are specific issues in relation to the BBC – since its product could have a particularly large impact on the development of standards. Becta's remit here is primarily in relation to measuring whether the plans cover no more than 50% of learning objectives that are amenable to being taught using ICT. However, we would recommend that consideration be given to the role that Becta might play in ensuring that the BBC and other suppliers comply with technical and interoperability standards. As a minimum this might involve Becta commenting on whether suppliers have met the agreed standards.

An emerging finding of CAB's work is that the Department should continue to give priority to interventions aimed at supporting teachers in: (i) their purchasing decisions and the value for money achieved, (ii) the use of ICT in the classroom and (iii) institutional use. Such interventions will be important in increasing the effectiveness of eLC funding in achieving its educational objectives.

5.1 Using COL to improve purchasing decisions and value for money

5.1.1 Improving product information (Recommendation 7)

As noted in section 2.3, further work is under way to bring together the available evidence on the COL website for consideration by CAB.

In advance, the Department may wish to consider a number of incremental steps to improve COL's impact on teacher and school purchasing decisions. These steps focus on supporting the teachers who are relatively inexperienced ICT users – although they would also be helpful for all users.

- Provide information on COL of the leading products by sales. This would mean that teachers could quickly and easily see the products that are being purchased by their colleagues in England[9]. It would rely on improving the eLC return information – as set out in section 3.2. (Given the change of incentives that this implies in relation to eLC returns, consideration would have to be given to ways to ensure that companies do not overstate their sales information.)

- Give consideration to mechanisms to improve and focus COL product evaluations on the leading products. In due course, as more detailed evaluations of leading products become available (see section 4.1), the top-ranked products could also have detailed evaluations attached. But consideration should be given – as a minimum – to ensuring that teacher evaluations (for instance by Schoolzone, TEEM or Learnthings) are included for all of the leading products.

- Promote the BETT awards. The COL site could also be used to promote those products that have received BETT awards and a shortlist of runners-up who reach an agreed quality threshold. Work is under way to develop the assessment process of this product from the technical and (crucially) teacher and learning perspectives.

- The COL site should include material that demonstrates how some or all products can be used. This might be bespoke material from suppliers, or could draw on some of the material that has been developed as part of the embedding agenda.

- The COL site should also be linked to Becta's ICT Advice site – with advice on procurement and quality assessment.

As part of the June meeting, the expectation is that CAB will discuss some more options for improving the value of COL, some of which have been raised by Adam Singer (independent market analyst).

5.1.2 Improving value for money (Recommendation 8)

As noted above in section 3, there is almost certainly an opportunity to improve value for money in school purchasing of digital learning resources. CAB has not carried out detailed analysis of the issues here, and we understand that the Department is in the process of considering the options.

However, given the potential importance of this we recommend that DfES/Becta:

- prioritise consideration of the potential for electronic procurement to achieve aggregation benefits – reflecting the initial purpose of the COL proposal

- consider whether it is possible to achieve aggregation benefits on a case-by-case basis – in relation to the promotion of exemplar products, for instance.

5.2 Other mechanisms (Recommendations 9 and 10)

The evidence on use of eLCs and Curriculum Online suggests that the Department should continue to consider mechanisms that will promote the use of ICT in teaching practice. Options for consideration include:

- improving the availability of in-service support and training (for example, in purchasing and use of content) delivered through a mixture of LEA, subject association and ICT consultant support

- encouraging use of ICT by, for example, (i) increasing its profile in Ofsted inspections, (ii) providing clearer examples of ICT application in new versions of QCA schemes of work and (iii) promoting electronic assessment or managed learning environments.

We recommend that further work be done in this area to consider the options.

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[9] The recent DfES survey carried out by Bristol University (Kitchen and Finch) points to the fact that recommendations from colleagues and contacts are significantly more important for school and teacher purchasing decisions than COL.

A significant part of CAB's work programme, and some of the above recommendations, will have implications for the BBC's digital curriculum.

- CAB's objective to undertake gap analysis of the range, breadth and depth of curriculum subject areas covered will have implications for the BBC's requirement to be distinctive.

- CAB has a requirement to consult on relevant public- and private-sector content-commission plans and expenditure. Any further consideration that might be given to additional commissioning (Recommendation 5) needs to give close consideration to the BBC's existing plans. At the time of writing, CAB has not seen the BBC's proposed commissioning plans.

- Recommendation 6 relates to BBC interoperability standards in particular.

Subject to the Secretary of State's satisfaction with the proposals in this report, we recommend that CAB be asked to formally present the results of its work programme to the BBC – with particular reference to any implications for the distinctiveness and complementarity requirements (as set out in the DCMS licence approval).

This is consistent with our understanding of the DCMS licence approval of the digital curriculum. In particular, condition 11 requires that the BBC work closely with the Curriculum Content Advisory Board and, where possible, follow its recommendations.

Annex A – CAB work programme

CAB's remit as set out by the Secretary of State is: 'to advise on the performance of Curriculum Online (COL) in relation to the development of a comprehensive range of online digital resources'. The table below provides summary details of the current CAB work programme for each of its six objectives.

Objective	Work Programme
1. Gap analysis	*Work completed* • A paper prepared for CAB (in December 2003) examined the information that was currently available on the supply of digital content products and its value for assessing where gaps exist. This paper, and analysis provided to the March meeting, gives a basic numerical analysis of supply. The March CAB meeting also received details of the BETT 2004 survey carried out by SurveyDigital. • Detailed analysis of supply – based on automated reports from the COL product database – has been provided for five subjects and key stages by resource type, aggregation level and publication date. This work also feeds into objective 4 below. *Work underway* • An analysis of the amenability of learning outcomes to being taught using ICT has been carried out. The approached used was to assess amenability (using a defined grading system) of the 'learning' requirements in the UK national curricula / guidelines. Results are currently being written up. • BECTA is also the process of automating its error checking mechanisms to improve in order to improve the quality of information available through the COL product database. *Work Planned* • Work will be commissioned to provide qualitative assessments of products in priority areas – based on expert assessment of a selection of products.
2. Consult with market analyst	The CAB chair continues to meet the independent market analyst (Adam Singer) regularly – and will report details of his latest meetings at the June CAB meeting.

Objective	Work Programme
3. Industry consultation / BBC plans	A 'CAB' Private Sector Group (chaired by Owen Lynch) has been established to enable CAB / BECTA to consult on content commissioning and other COL related issues. This group will meet four times a year – in advance of the CAB meeting. *Work underway* • BECTA continues the process of discussing with the BBC its content commissioning plans – and will share the results of these discussions with CAB. • BECTA has also started discussions with the BBC in relation to the definitions of distinctiveness and the core or non core split.
4. Impact of eLCs	*Work completed* • CAB commissioned a study on the impact of eLCs, and a major report was discussed at the March 11th meeting. Since then an interview-based survey of a small number LEA advisers and ICT consultants has been carried out. The findings of this work have informed the approach taken to the postal survey (see below) and will be reported at the June CAB meeting. *Work underway* • CAB has included recommendations in this report on changes to the eLC returns process in order to improve its value in assessing the market. The proposals, have been discussed with small subgroup consisting of public and private sector participants. • A wider survey of schools and teachers on the impact of eLCs on purchasing behaviour. This survey will take place in June – July 2004 and will include a postal survey (which is combined with BESA's survey) and a web-based / email survey.
5. Public sector involvement in COL	CAB will consider COL in more detail as part of the June meeting. In particular it expects to review the options for public sector involvement in COL after consideration of its effectiveness (see Objective 6 below).
6. Effective delivery of COL	*Work completed* • A sub-group of CAB members presented a paper at the December CAB meeting on primary and secondary teacher responses to the COL site. It identified a need to shift the focus from technological standards to pedagogic design issues. *Work underway* • The web-based component of the survey of schools and teachers (see Objective 4 above) includes questions about usage of COL. • A paper on the performance of COL is being prepared for the June CAB meeting. The study will draw on existing surveys and studies, as well as COL usage data from the DfES.

Annex B

Detailed recommendations on the eLC returns process

1. Suggested changes to the data collection and consolidation process

The quality of returns and the ability to analyse them automatically could be improved through some simple changes to the spreadsheet design (although we understand that this is not a mandatory form for reporting):

- the template workbook should be protected to prevent columns or formats being amended

- constrained value formatting and conditional formatting should be added, so that values in the wrong format or incomplete records are highlighted

- the template workbook should only contain one worksheet with the instructions at the top. At the moment, workbooks are sometimes returned with the instruction sheet as the active sheet, or with sheets for several months included. This makes it more difficult to automate the analysis of returns. (The latest version of the spreadsheet has been amended to a single sheet.)

Suppliers and retailers should be asked to name the spreadsheet attachment using the same convention as the subject heading of the e-mail.

A register of people responsible for making returns should be set up and maintained each month. (We understand that this is already happening.)

Each return should be visually scanned each month and discussed with, or sent back to, the supplier or retailer if it is not in the template format, is incorrectly named or is poorly completed. Over time, the need to send back returns should decrease.

A documented system should be set up for archiving the e-mails and the attached spreadsheets to ensure confidentiality and easy retrieval.

Each month, the data should be consolidated using either Excel or an Access database. Simple analysis should be carried out each month in order to identify problems with the data that need to be queried with suppliers or retailers.

2. Suggested data to be reported

In this section we set out an initial proposal – for consultation – on the quarterly reports to be produced.

2.1 Reports for Becta and CAB

Quarterly reports for Becta and CAB could contain the following data:

- Total sales, by quarter and for the year to date.

- Sales for the top 20 (say) suppliers by quarter and for the year to date. This analysis would require sales by intermediaries such as REM to be allocated back to suppliers.

- Sales by subject by quarter and for the year to date. The analysis would be based on the 'major subject' product tagging in the COL registration database. Additional analysis would be required to pick up products without a major subject tag – for example specific cross-curricular products with high sales might be separated out in this analysis. Sales by subject could also be analysed further to show sales by learning resource type and by aggregation level within subjects.

- Sales by primary, secondary or special school and so on, by quarter and for the year to date. This is a proxy for sales by key stage and would be generated based on data on purchasing schools. Using data on schools is preferable to using product data because so many products are tagged across several key stages.

- Sales by region by quarter and for the year to date. The aim of this analysis would be to check whether particular regions appear to be under-spending. We would need to consider whether this analysis should be done at LEA level or whether LEAs should be grouped by region.

- Top product sales by subject and key stage. The ranking would be based on year-to-date sales values.

2.2 Reports for general publication

With some adjustments to protect commercial confidentiality, the report above for Becta and CAB could be published more widely. Data on sales by supplier would be deleted. Ideally the lists of best-selling products (but not the value or number of units) would be reported, although this might need to be subject to supplier agreement.

2.3 Tailored reports for individual suppliers

The level of detail that can be shared will be subject to consultation with the market. For each data set below, suppliers could be provided with the total size of the market, the value of their own sales (as submitted in eLC returns) and their rank in the last quarter and the year to date. Reporting submitted data back to suppliers should help to identify errors in the reporting and collation processes. Data that could be provided includes:

- total sales

- sales by subject

- sales by primary and secondary and so on

- sales by region.