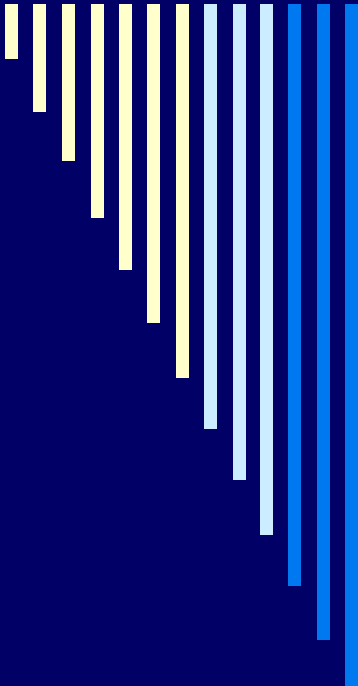


# Education and Training Inspectorate

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## Report of a Follow-up Evaluation of The Use and Impact of Learning Environments in Schools and in the Wider Education Service

July 2010

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A number of quantitative terms are used in the report. In percentages, the terms correspond as follows:

More than 90%	- almost/nearly all
75%-90%	- most
50%-74%	- a majority
30%-49%	- a significant minority
10%-29%	- a minority
Less than 10%	- very few/a small minority

## **1. INTRODUCTION**

1.1 In 2008, the Education and Training Inspectorate (Inspectorate) carried out a comprehensive evaluation of the use and impact of learning environments across the schools and wider education service. The evaluation included Learning Northern Ireland (LNI), which is the regional virtual online learning environment of the C2k managed service solution. While the evaluation report<sup>1</sup> acknowledged the successful creation, uptake and use of the C2k managed service as a whole, and the outstanding, innovative work ongoing in some schools, it also highlighted some important shortcomings concerning the impact of learning environments in schools and the wider education service.

1.2 As part of the original evaluation, the Inspectorate made a number of key recommendations, including the need for:

- the usability, performance and technical support issues with LNI to be urgently addressed;
- the provision of professional development for school leadership teams, teachers and learning support staff;
- stronger strategic management by the Department of Education (DE) of the various support agencies;
- a co-ordinated support programme for teachers to be the highest and most urgent priority in DE's review of the Empowering Schools strategy;
- better arrangements for the teaching profession and wider education community to provide short-cycle feedback on the usability and performance of LNI;
- the procurement, deployment and support of a new online learning service which provides users with some choice of learning environment without loss of the advantage of a single, secure regional solution; and
- support for the development and evaluation of new models of distance-learning delivery of online accredited courses.

1.3 The purpose of this follow-up evaluation is to determine the extent to which the key recommendations outlined in the original evaluation have been addressed by the various stakeholders.

## **2. EVIDENCE BASE/METHODOLOGY**

2.1 The findings from this follow-up evaluation are based upon evidence from:

- visits to 18 schools, including primary, post primary and special schools (Appendix);
- interviews with a wide range of representative stakeholders from across the education service; and

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<sup>1</sup> An Evaluation of the Use and Impact of Learning Environments in Schools and in the Wider Education Service, Education and Training Inspectorate, October 2008.

- an evaluation of the improvements to LNI provided by two technical analysts from Becta<sup>2</sup>.

2.2 As part of the follow-up inspection, C2k officers identified a number of schools which they considered to be making good use of the LNI platform; eight of these schools were visited by the Inspectorate.

2.3 During the visits to the schools, discussions were held with principals, members of the school management teams (SMTs), information and communication technology (ICT) co-ordinators, heads of department, teachers and pupils. In addition, inspectors visited lessons, examined samples of pupils' work and other relevant curriculum documentation.

2.4 A complementary component of the evidence base underpinning this follow-up evaluation was the contribution made by the Becta technical analysts, who were also involved in the original evaluation. They visited four schools to observe primarily the usability and performance of LNI within these school settings on a typical day.

### **3. STRATEGIC OVERVIEW**

3.1 Since the original evaluation, there has been ongoing uncertainty about the key roles and responsibilities of the main education stakeholders. This has not been conducive to shared and collaborative working practices across the various agencies and support services. For example, almost all of the stakeholder organisations submitted discrete action plans to address some of the key recommendations outlined in the original evaluation report. Within these constraints, however, the follow-up evaluation has identified some features of good collaborative working such as the work for the implementation of the revised curriculum and the support for student teachers. Overall, the evidence suggests much more still needs to be done by the stakeholders, and the DE, to work together more strategically and coherently in order to achieve the best possible outcome from the significant investment in the service.

3.2 There has been a delay in the implementation of a clear, shared strategic plan and lead for the wider use of technology in schools and in addressing the key recommendations of the original evaluation, in particular, the lack of progress with regard to a revision of the Empowering Schools strategy. Consequently, there continues to be inadequate support for classroom teachers, and the levels of awareness among school leaders about the potential learning advantages of the wider use of technology remains insufficient. Becta report, for example, that only 20% of the schools in Northern Ireland are currently engaged with the Becta Self Review Framework (SRF), in contrast to 84% in England.

### **4. THE USE OF LEARNING ENVIRONMENTS IN SCHOOLS**

4.1 There are significant variations between schools in the effective use of educational technology; in the schools visited, the use of technology to enrich learning ranged from outstanding to unsatisfactory. The effective use of learning environments was satisfactory or below in the majority (58%) of the schools visited; it was inadequate or unsatisfactory in just over one-third of them. As originally reported, it is clear that the schools evaluated as outstanding in the use of technology to support learning make little or no use of LNI; instead they opted for learning environments which they report suited their needs better. It is noteworthy that, while there were examples of outstanding practice in three of the four specialist ICT schools inspected in early 2010, inconsistency in the pedagogy and sharing of effective practice with ICT to raise standards remained evident in several of these schools<sup>3</sup>.

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<sup>2</sup> [www.becta.org.uk](http://www.becta.org.uk)

<sup>3</sup> The Specialist School reports are available on [www.etini.gov.uk](http://www.etini.gov.uk)

4.2 According to data supplied by Hewlett Packard and C2k at the time of the follow-up evaluation, the use of LNI by schools, teachers and pupils has continued to rise steadily in the period since the original evaluation, with a 15% year on year increase in the number of pupils accessing and using LNI. In addition, there were users from just over 90% of all of the schools. Proportionately, however, the overall numbers remain disappointingly low; in February 2010, for example, fewer than 4% of all primary and just over 7% of all post-primary pupils accessed LNI. During the same month, just under one-quarter of teachers in the schools accessed LNI. Too many schools continue to rely heavily on shared drives located on their local area networks. While the pupils have good access to these, they tend to lack structure and organisation, contain large numbers of files, home access for them is often poor and no tracking or monitoring of use is possible. Much more needs to be done, by all of the stakeholders, to encourage and support schools in the use of learning environments to support and extend learning, in and outside of school.

4.3 The schools visited where the provision is outstanding are characterised by well-informed, good strategic leadership, innovative pedagogic practices in a significant number of classrooms and a willingness to invest in the trial and development of new technologies to support learning and management. The pupils' experiences in these schools are much richer as a result and contrast sharply with patchy, inconsistent provision in many of the other schools. Consequently, they need and are able to exercise greater choice and control over a wider range of online learning tools which they choose to use, which is not currently possible through LNI. It remains the case that the best practice in these schools goes largely unnoticed or inadequately affirmed by the key stakeholders; this innovative practice needs to be more effectively and widely shared and built upon.

4.4 For example, in one of the post-primary schools visited, a Quadrant four<sup>4</sup> school, a secure intranet with its own servers which enables the students and teachers to use protected Web 2.0 applications, currently blocked by the C2k network, has been established. This runs on both the school's legacy and C2k networks, and is used to good effect to enrich considerably the teaching and learning experiences. This includes, for example:

- all subject departments publishing their teaching and resource content in Moodle;
- all teachers using Google Apps (Google documents, mail, spreadsheet and calendar) for curriculum planning, pastoral care management, recording and analysis of results, diary, and resource bookings;
- around one-quarter of the teachers use Twitter to communicate with each other;
- text messaging is used to communicate with parents;
- Web 2.0 applications are being used to create online tests and quizzes;
- selected educational videos from YouTube and other sources are streamed from a safe video-server (for example, the AQA chief examiner's video report illustrating examples of effective coursework);
- website creation tools (Ning and Elgg) are used to create subject websites (for example for Spanish students in study jointly with students in a paired school in Malaga through Comenius);

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<sup>4</sup> An Evaluation of the Use and Impact of Learning Environments in Schools and in the Wider Education Service, Education and Training Inspectorate, October 2008, Page 15

- over 100 pupils in the school are enabled to use personal devices on the school networks; and
- discussions are underway to provide each pupil with a secure Google account.

4.5 In another example, the year 12 pupils studying the Certificate of Personal Effectiveness (COPE) programme in two of the specialist schools work collaboratively and effectively online on a weekly basis through video conferencing through the C2k network, e-mail and a shared bulletin board in a range of activities including, for example, the writing and publishing of story-books for younger pupils.

4.6 A large post-primary school makes effective use of LNI as the sole learning environment to enhance the quality of the pupils' learning experiences and to raise standards. This has been well-managed by the school, most notably the strong link between curriculum development and raising the professional competence of teachers in the use of LNI in the school. The LNI award scheme for teachers has been used as a model for staff development in the school. A key driver of change has been the formation of an ICT development team to lead innovative projects in the use of LNI across a number of subject areas and different year groups. These aimed to foster independent and collaborative learning by the pupils both in school and at home. This has resulted in increased use of LNI by teachers and pupils, and a significant change in teaching and learning approaches. Good use is made of online survey tools, outside of the LNI environment, to ascertain the skill levels of teachers and their future development needs in the use of LNI. This is supported with extensive monitoring and evaluation by the senior management team, on the use of LNI by pupils in school and at home.

4.7 In the schools where the wider use of technology is inadequate or unsatisfactory there are very low levels of awareness and understanding by the school leaders, middle managers and classroom teachers of the potential of online learning to enrich the pupils' learning experiences and to raise standards; in these schools the use of learning environments to support and enhance learning is almost non-existent. A common theme reported by these schools is a general lack of confidence in the capability of the LNI service stemming from prior experiences which did not meet their expectations.

## **5. PROGRESS ON RECOMMENDATIONS FROM THE ORIGINAL EVALUATION**

5.1 Overall, there has been an improvement in the uptake and use of learning environments for teaching and learning. In too many schools, however, the use of learning environments to support teaching and learning is significantly under-developed. C2k and the key stakeholders have made satisfactory progress in addressing some of the key recommendations, in particular those around the usability and performance of LNI. However, significant areas for improvement remain.

5.2 The remaining sections of this report make reference to the key recommendations from the original report, which were grouped under the headings of: change management programme; procurement of a new online learning service and the development of emergent quality models of e-learning.

### **i. Change Management Programme**

5.2.1 There are too few opportunities for teachers and leaders to develop their skills and professional competence in making the best use of learning technologies, including learning environments. There is a lack of advice and support for schools regarding the complexities of the implementation of learning environment strategies, which supports whole-school

improvement and raises standards of achievement. This key issue remains particularly acute in the primary sector where there are still significant gaps in the provision of professional training for school leaders and teachers, coupled with limited access to technical support, leading to an under-developed use of learning environments. The issue is compounded by the delay in the review of public administration in education, and with regard to the implementation of the review of the Empowering Schools strategy. Nevertheless, there have been a number of positive developments since the original evaluation.

5.2.2 Those involved in teacher education<sup>5</sup> have developed collectively, through the Teacher e-Portfolio Project<sup>6</sup>, the capacity to make effective use of e-portfolios. This work has significant potential to support the career-long professional development of teachers.

5.2.3 There has been an increased use by stakeholders of online professional development courses. In the context of support for the revised curriculum there were advances during 2009 in the take up by teachers of blended online/face-to-face information and advice about implementation. Examples include the course on 'effective questioning' provided by the Curriculum Advisory and Support Services (CASS) to over 3,000 teachers from primary schools and the online provision in special education, where practitioners and specialists provide and receive support through LNI.

5.2.4 Furthermore, the Council for the Curriculum Examinations and Assessment (CCEA) hosted in Moodle courses for the professional development of teachers in the assessment of cross-curricular skills, and also to support the use of InCAS in primary schools. It is noteworthy that CCEA and C2k are collaborating in order to provide a link from within LNI to the Moodle-based CCEA courses. A further online course in the effective use of data in primary schools has been prepared by CASS and the Inspectorate working together.<sup>7</sup>

5.2.5 There is evidence of an increased willingness by teachers to publish and share resources through the LNI Library.

5.2.6 Nearly all of the stakeholders report that LNI does not have sufficient functionality in order to be a fully effective learning environment for continuing professional development courses. The key recurring weaknesses reported by these users include the constraints in course design and set-up, course management issues such as student monitoring and tracking and online feedback and reporting.

5.2.7 The key stakeholders report noticeable improvements in relationships, communication and engagement with C2k since the time of the original evaluation report; it is of vital importance that the senior managers in C2k ensure that this is sustained, and built upon. The improvements in the performance, functionality and features of the LNI platform have been well-promoted and communicated to the schools and stakeholders. The improvement process was well-informed appropriately through regular consultation meetings between C2k, other stakeholders and the schools. There is a need, however, for improved engagement by C2k with the more innovative schools (those in Quadrant four of the original report) drawing upon the outstanding examples of practice exhibited by them, even though almost all are using learning environments other than LNI.

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<sup>5</sup> Project partners: UCETNI (Ulster and Queen's University; Stranmillis and St Mary's University College); the Curriculum Advisory and Support Services supporting induction and early professional development); the Regional Training Unit; the General Teaching Council for Northern Ireland and C2k

<sup>6</sup> Teacher E-Portfolio project website [www.tepni.com](http://www.tepni.com).

<sup>7</sup> A Follow-up Evaluation Report on the Implementation of the Northern Ireland Curriculum in Primary, Special and Post-Primary Schools: ETI, 2009. [www.etini.gov.uk](http://www.etini.gov.uk)



5.2.8 The General Teaching Council for Northern Ireland (GTCNI) and C2k initially agreed arrangements whereby newly qualified teachers not in full-time employment could register for and continue to use LNI. However, some obstacles have been encountered, and despite significant efforts, these have not yet been resolved; it will be important that a resolution is found in order to provide access to LNI for newly qualified teachers to support ongoing induction and early professional development, irrespective of their employment status.

## ii. Procurement of a new Online Learning Service

5.2.9 It is clear that C2k and Hewlett Packard have worked hard, and with good success, in addressing many of the key issues around the usability and performance identified in the original evaluation. Some of the most noticeable improvements reported by the Becta technical analysts include:

- the more graphically engaging, customisable and age-appropriate Graphical User Interface (GUI), which is much easier for users to traverse than the version reviewed in 2008;
- the much better Library functionality, including the introduction of a 'basket' to collect resources and a more effective and easier to use search facility; and
- the easy to use 'Video-on-demand' functionality.

5.2.10 Becta reports further that the LNI hardware upgrade was successful in addressing the slow and unreliable responses experienced by users in the original evaluation. According to Becta, *'In general, the performance of the LNI platform is excellent, and although this observation has to be understood within the context of low rates of national usage, we believe that the platform should be able to cope as the usage rate continues to improve'*<sup>8</sup>.

5.2.11 While the schools visited by the Becta analysts did not report any issues around the usability and performance of the LNI platform, they did raise some wider concerns, including:

- the lack of feedback to schools by the C2k helpdesk when helpline calls have been made in relation to issues regarding the school's infrastructure performance;
- the need for greater flexibility through LNI for creating, accessing and managing online resources;
- ongoing lack of LNI functionality in regard to pupil tracking and monitoring, and the adequacy of the assessment tools; and
- the lack of full interoperability of LNI with the schools' management information system (SIMS).

5.2.12 All of the schools visited by Becta reported the need for a local school resource library, located within LNI. More detail on the outcomes of the work of the Becta technical analysts can be found in their published report on DE's website.

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<sup>8</sup> Observations of a site visit undertaken by Becta on behalf of the Department of Education, [www.becta.org.uk](http://www.becta.org.uk)



5.2.13 Many teachers report that the LNI interface is still not sufficiently intuitive to enable them to make an easy transition from storing and sharing electronic learning resources using shared public drives and other areas on their local area networks, to a learning environment such as LNI. There is evidence to show that many teachers, particularly in the post-primary sector, are making good use of a variety of online services provided for them, for example, by awarding bodies and commercial subject-based learning platforms.

### **iii. Development of Emergent Quality Models of E-Learning**

5.2.14 While some progress has been made in the use of e-learning within teacher education since the original evaluation, overall there has been insufficient progress to support the development of new models of online accredited courses.

5.2.15 Across four of the initial teacher education providers (University of Ulster and Queen's University; Stranmillis and St Mary's University Colleges), student teachers, to varying degrees, make use of LNI to access and use resources. In the best practice they also share reflections and advice with their lecturers and peers while on school-based teaching practice. C2k is to be commended for the active support provided to assist the lecturers of education to embed further the use of LNI by the students.

5.2.16 C2k currently provides for users a LearningNI award scheme at three levels. This award scheme sits outside of the national qualifications framework and as such is a non-accredited course with limited progression and transferability opportunities. While the award scheme provides users with the skills to make use of LNI, more needs to be done to enhance teachers' pedagogic skills in making effective use of LNI in the classroom and to support remote learning by the pupils. In contrast, the Regional Training Unit (RTU) Online Learning and Teaching for Educators (OLTE) programme develops well the pedagogic skills required to develop and implement fully online learning courses. In addition, the RTU and University of Ulster have responded to a recommendation of the original evaluation report and now provide credit points for those teachers who wish to progress to a Masters in Education award at the University of Ulster.

5.2.17 It is encouraging that DE continues to provide support to enable teachers from area learning communities to enrol on the OLTE programme to support the development of e-learning for school-to-school collaboration for 14-19 provision. This follow-up evaluation, however, identified few instances of effective school-to-school online collaboration. For example, the RTU reports that teachers from 26 out of the 44 specialist schools have completed or are undertaking the OLTE programme. It is disappointing, however, that only a very small number of these schools collaborate appropriately with each other in developing and making online course provision. The scope of the OLTE programme is also limited to school-based collaboration as part of the Entitlement Framework and does little to facilitate school-to-college or work-based learning provider collaboration.

5.2.18 The six area-based further education colleges have well-established and effective virtual learning environments. There is much to be gained through a more shared approach to e-learning by the schools, further education colleges and work-based learning providers in order to better address the aspirations of the Entitlement Framework.

## **6. CONCLUDING COMMENTS**

6.1 There has been an improvement in the uptake and use of learning environments for teaching and learning. Particularly good progress has been made by Hewlett Packard, working in close partnership with C2k, to address most of the usability and performance issues identified in the original evaluation. Relationships between C2k and the key

stakeholders, and the levels of collaboration with its users, have improved. Overall, C2k and the key stakeholders have made satisfactory progress in addressing some of the key recommendations, or aspects of them.

6.2 The LNI platform has improved, albeit from the low base identified in the original evaluation, and has now reached a much improved level of performance and functionality. Even some of the schools strongly committed to, and supportive of, LNI recognise the need for continued improvements, particularly with regard to pupil monitoring and tracking, the quiz tools and the quality of inter-operability with SIMS.

6.3 Despite the significant investment over a long time period, the potential for making effective use of ICT and learning environments to enhance the quality of the educational experiences for the majority of pupils has not yet been realised. Too few pupils are benefiting from enriched learning experiences as a consequence of the use of digital technologies that are available in the classroom. The pupils in the more technologically embedded schools benefit from significant learning advantages compared with their peers in other schools. There is evidence to show that they learn well independently and manage their own learning, and are able to communicate and collaborate effectively with others, often through the use of technology. They report a more efficient use of their time out of school through good access to appropriate resources, quick feedback and peer support and learning.

6.4 While it is clear that progress has been made, it remains the case that with the exception of the usability and performance problems with LNI, many of the recommendations, or important aspects of them, have still to be fully addressed. In order to secure an adequate return on the significant investment in a regional learning environment, action needs to be taken by DE to devise and implement a clear strategic direction for the effective use of ICT consistently in all schools.

6.5 Some supporting recommendations include:

- the need to address the significant under-use and continuing low levels of awareness of learning environments across the schools, which should be a priority within a reviewed and revised ICT strategy;
- the need for greater incentives for schools, pupils and teachers, and indeed parents, to use the LNI or other learning environment;
- the need for a more flexible, integrated and school-customisable range of services; and
- the need to realise better the potential of learning environments to enhance school-to-school and school-to-college/work-based learning supplier collaboration within the area learning communities.

6.6 The Inspectorate will monitor and report on the progress in addressing the remaining areas for improvement and the progress on the recommendations.

## INSPECTION VISITS

Inspection visits were made to the following schools:

Antrim Grammar School  
Belfast Royal Academy  
Brownlow Integrated College, Craigavon  
Fleming Fulton Special School, Belfast  
Greenisland Primary School  
Methodist College, Belfast  
Millennium Integrated Primary School, Saintfield  
Oakgrove Integrated College, Londonderry  
Portora Royal School, Enniskillen  
Rossmar Special School, Limavady  
St Brigid's College, Derry  
St Mary's College, Clady  
St Mary's Primary School, Ballygawley  
St Patrick's Academy, Dungannon  
St Patrick's Primary School, Dungannon  
Newtownards Model Primary School  
Termoncanice Primary School, Limavady  
Wallace High School, Lisburn

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