MILO: Models of innovative learning online at Key Stage 3 and 14–19

Final report: executive summary

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Executive summary

Key findings

- We identified four typical models of online learning:
  - Fully online – supported with structured activities and communication
  - Independent study – with extensive online resources and some teacher support
  - Added value – predominantly face to face, with additional supporting online activities and resources to be explored
  - Flexible integration – flexible timetabling to allow a mix of online learning with traditional teaching and learning.
- Evidence suggests that independent-study and fully online models of learning are challenging for students who are not self-motivated and autonomous, particularly younger students. Learners benefit more from remote online learning when teaching is re-orientated to develop greater independence rather than supporting transmission models of teaching. Personal learning and thinking skills[1] need to be promoted more strongly across both 11–14 and 14–19 age groups.
- Students in compulsory education are positive about online learning but not enthusiastic about models that are entirely based online. Instead, students favour blended approaches and flexible integration. Flexible integration, which can be approached in many different ways, some of which are outlined below, can meet the needs of all learners while remaining manageable for teachers, maximising potential benefits and minimising challenges.
- A welcome and effective approach for learners in full-time employment is a fully online model underpinned by a pedagogy that is:
  - learner-centred
  - guided
  - autonomous
  - largely collaborative.

  This model is potentially transferable, for example to facilitate access to a course not usually offered within an institution, but is not desirable as a replacement for all face-to-face teaching.
- Many teachers and learners have a conservative view of fully online learning. Furthermore, those teachers who have implemented added-value

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[1] The Personal Learning and Thinking Skills (PLTS) framework was published in 2007 by the QCA. It describes the qualities and skills required to ensure success in later employment and lifelong learning in six groups: independent enquirers, creative thinkers, reflective learners, team workers, self-managers, and effective participants. PLTS will be an integral part of Diploma courses, as part of the Government's 14–19 reforms.

and flexible integration models in school and further education settings have not yet incorporated radical changes to underlying pedagogy. More effective (and widespread) pedagogical training and support is a needed for teaching professionals to enable them to envision new possibilities. An effective means of facilitating this would be to encourage teaching professionals to undertake a formal qualification in teaching online.

- Supporting remote learning through flexible integration is a feasible way for schools to address staff shortages. Working with external agencies to ensure skills requirements are met, engaging the services of undergraduate students, is one possible solution. Alternatively, providing content online can help teachers deliver courses that are outside their specialist areas.

- Flexible integration is also a means of addressing space limitations on site.

- Supporting 'remote' access from school (supported by staff remotely) and online learning across the curriculum is (unsurprisingly) placing great demands on access to computer resources. Learners' use of their own portable computing devices would address many of the logistical issues relating to access and online learning without placing too much demand on resources. National policy is needed which encourages families to provide such portable computing devices and supports families that are unable to meet the costs. In addition, institutions, suppliers and policy-makers need to support personal ownership and use of mobile devices more widely.

Impact

- The Bridge Academy case study offers evidence that online learning can be a useful tool in engaging disaffected students in education.

- Remote online learning can support personalised learning and, in particular, facilitate a flexible approach for learners, enabling them to work at times and in locations that suit them best.

- Transferring responsibility for learning to students and facilitating new ways of learning have a positive impact on learner motivation. However, the underlying pedagogy is a crucial factor and, when learners study independently, the perceived lack of support can be demotivating.

- Anecdotal evidence suggests that remote online learning has a positive impact on attainment. In two cases, parents and staff also noted that it contributed to the development of better time-management skills and to students taking responsibility for learning, which are considered to better prepare students for higher education.

Benefits

- In one case, online learning (although on site rather than remote) enabled a school to address the crucial issue of staff shortages in particular subject areas. The solution involves working with an external agency that provides expertise and co-ordinates access to undergraduate students, who act as mentors (remotely). The undergraduate students worked under the direction of the class teachers to create online resources. Each term, staff from the external agency provide four-hour practical sessions (with support from the undergraduate students) on site.
- Online assessment makes the teacher's role easier. It can speed up the assessment process, ensures that records are maintained enabling staff to monitor learners' progress more easily, reduces paperwork, minimises the work lost by learners, and enables more effective tutorial support.
- Online communication is perceived to result in more contact with teaching staff. Learners appreciate the opportunity to seek clarification and advice beyond the confines of the classroom.
- Remote online learning can release teaching staff so that they have time to develop resources and provide more focused support to learners, both face to face and online.
- Teachers and learners perceive that reducing the burden of paperwork in coursework-heavy subjects is a major benefit. Online learning and particularly online assessment can reduce printing costs, facilitate faster responses, improve efficiency and reduce teachers' workloads.
- Online learning is thought to speed up the teaching process (learners can progress at their own pace) and, with learners taking greater responsibility for their learning, less teaching input is required.
- Remote online learning offers a feasible way to support the delivery of Diplomas across multiple institutions.
- Limited anecdotal evidence suggests that online learning supports different types of learners effectively.

Challenges

- Increasing provision of online learning both within institutions and remotely is, unsurprisingly, increasing demands for access to resources. Management concerns about digital divide issues can act as a deterrent to online learning. One solution might be to promote learners' ownership of low-cost technologies or support the use of personal devices within institutions.
- Evidence suggests that independent-study and fully online models of learning are challenging for learners who are not self-motivated and autonomous, particularly younger students. To support such learners,

different models need to be adopted which do not rely to such an extent on a learner's ability to be autonomous. Equally, it is important to support the development of personal learning and thinking skills.

- Lack of interoperability between some learning platforms and management information systems (MIS) is thought to constrain the potential for online learning to have an impact on efficiency. Lack of interoperability may have further implications for cross-institutional provision of Diplomas in the Government's 14–19 reforms.

- Online learning is not perceived to be appropriate for all curriculum areas.

- Staff and learners need training to reap the potential benefits of online learning. Attitudes and pedagogical practices need radical changes in some cases.

- In some cases, staff perceive that remote online learning is having a negative impact on their role: they feel marginalised, miss the direct contact with students, and feel that the online trail of teaching activity will be used to gauge teachers' success. This is an unanticipated finding and warrants further research because it has implications for staff recruitment and retention.

- The design of online learning must focus on the pedagogy and not the technology. Staff need to resist pressures to create sophisticated learning materials if a simpler approach would be equally as effective.

- Learners express a preference for blended learning approaches and flexible integration models. They miss social (especially face-to-face) contact, even when working from home where they may be no restrictions on access to social networking sites. Although social contact could be facilitated remotely through communication tools provided as part of the online learning environment, this facility would need to be managed carefully to ensure that learners stay on task, and still may not meet learners' needs. There is as yet limited evidence on whether social networking has potential benefits within formal education provision.

- Although remote online learning has the potential to support the development of parental engagement (through access to information and children's work), it takes more than providing the facility and means to become engaged to make a difference. Parents need greater support and encouragement through education.

- Parents have two potential concerns with regards to online learning outside institutions. The first issue is that of providing care, particularly for younger students. This issue is largely untested because current initiatives have been implemented only on a small scale or piloted with small groups of motivated learners. Secondly, parents have greater responsibility for supporting learning in the home. Parents will inevitably require further support to enable them to engage more fully.

Implications for policy-makers and managers

In relation to impact

- Flexible integration offers a means of addressing staffing shortages and space limitations. Flexible integration, which can be approached in many different ways, some of which are outlined below, can meet the needs of all learners while remaining manageable for teachers, maximising potential benefits and minimising challenges.
- The Bridge Academy model offers an excellent example of how remote online learning can be used to engage learners and release staff to develop online resources, provide support to learners and prepare other face-to-face activities. While the exact Bridge Academy model is not likely to be scalable (because of the provision of state-of-the-art equipment), elements of the model are easily transferable to the Key Stage 3 and 14–19 sectors. For example, different year groups could work remotely at different times during the week, for one day or half a day.
- The focus of online development should be on the underlying pedagogy and not the technology. More effective and widespread pedagogical training and support for teaching professionals is needed to enable them to envision new possibilities. Teaching professionals could be encouraged to undertake a formal qualification in teaching online, which would also allow them to experience an online approach to supporting teaching and learning.

In relation to benefits

- The Villiers High School's virtual school offers an excellent example of how virtual online learning on site with support from external agencies can address staff shortages.
- Online learning in a flexible integration model can enhance the provision of multi-institutional Diplomas. The use of ICT ensures that these new qualifications are truly innovative. Institutions and local authorities need to be directed to harness the full capabilities of online learning.
- Online learning has potential to contribute to a range of efficiency savings. Online learning needs to have more prominence in national and regional agendas to ensure that institutions prioritise its development. However, the underlying pedagogy and impact on learning should be the primary focus to ensure that administrative tasks are not simply automated and pedagogical practices are not emulated rather than radically reshaped.

In relation to challenges

- Learners' use of their own portable computing devices would address many of the logistical issues relating to access and online learning, without placing too much demand on resources. National policy is needed which encourages families to provide portable computing devices and supports families that are unable to meet the costs. In addition, institutions, suppliers and policy-makers need to support personal ownership and use of mobile devices more widely.

- Learners benefit more from remote online learning when teaching is re-orientated to develop greater independence rather than supporting transmission models of teaching. Personal learning and thinking skills need to be promoted more strongly across both 11–14 and 14–19 age groups in order to maximise the full potential of online learning.

- Regional and national policy-makers need to ensure that interoperability issues between learning platforms and MIS are reduced, if not eliminated. This calls for consultation between all suppliers and user groups.

- Because widespread use of remote online learning has not yet been implemented at Key Stage 3 and age 14–19, further investigation of potential care issues in relation to learning from home rather than in the institution is required; at the very least, this should involve a national consultation process to determine parents' opinions and attitudes. Funding is needed to pump-prime the development of further remote online learning initiatives that go beyond piloting activities and involve more than one institution.

- Providing learners with home access to technology and facilitating parental access to information about their children is not in itself enough to encourage parental involvement. Support structures and educational programmes need to be put in place.

A new framework for analysing formal online learning

A framework for describing and categorising different models of formal online learning has been developed, incorporating all the elements that can be used to deliver online courses:

- Pedagogy:
  - Is the pedagogic approach learner-centred or teacher-centred?
  - Is the learning guided or autonomous?
  - Is the learning individual or collaborative?

- Organisation:
  - How is students' study time organised?
  - Where are the students located? Are the online materials used in a distance or face-to-face context, or both?
  - Is the group cohortised or non-cohortised?
- Technology:
  - Are learner tools provided online?
  - Is communication taking place online?
  - Is assessment happening online?
  - Are teacher tools provided online?

In addition, a circular bar chart provides a graphical indication of online use of learner tools, communication tools, teacher tools and assessment together with the pedagogical, organisational and technical approach.

The framework has proved to be a useful tool for identifying and analysing formal online learning. In particular, it has revealed a lack of awareness and knowledge about tools that teachers can use for pedagogic and administrative purposes, suggesting that these are underutilised in most institutional implementations of online learning. As with many ICT initiatives, issues relating to training (such as timeliness, coverage, and including all relevant staff) underpin this shortcoming.