Kemnal Technology College

Title: Improving Cognitive Learning with LAMS

Background

Kemnal Technology College (KTC) is a comprehensive school for boys aged 11-18, with a mixed sixth form. The college teaches all subjects in the National Curriculum, plus a range of vocational qualifications. As it is a technology college, all learners study both ICT and technology to GCSE level.

The College is currently piloting *LAMS* (Learning Activity Management System) in conjunction with the Specialist Schools Trust and the DfES.

Challenge

A guiding principle for KTC is raising educational standards and learner achievement. Accomplishing this requires staff to continually evaluate their teaching in fine detail so that they can make the changes necessary to improve learning. However, this can only occur if teachers are given sufficient time to carry out this process in addition to their existing duties. The management team at KTC, led by Vice Principal Vivienne Hughes, therefore looked at how e-learning might help to improve teaching and learning and create extra capacity in teacher workloads.

A range of initiatives was subsequently implemented to bring e-learning into the classroom. These included infrastructure improvements such as interactive whiteboards, laptops for staff and a virtual learning environment. These initiatives provided immediate benefits for teachers, who were able to carry out a range of teaching and administrative duties more efficiently. As a result, they had more time to implement improvements in their teaching provision.

However, in order to evaluate whether such changes would facilitate a rise in standards, the impact of the changes on learning must be measured. In the classroom, such evaluation is typically done through discussion with the learners. Yet class discussions rarely allow *all* learners to make a sufficient number of contributions for their understanding to be fully assessed. This may be for practical reasons such as limited class time, as well as reluctance on behalf of the learners. This is where one particular e-learning application, *LAMS* (Learning Activity Management System), may offer a solution.

What e-learning offers

LAMS provides an intuitive visual authoring environment for the design and delivery of a sequence of collaborative learning activities. These activities may include discussions, reflective question and answer, polling, sharing of resources such as documents or web sites, and file submission. By focusing on collaboration and reflection, rather than content delivery, cognitive learning can be promoted. Vivienne Hughes believes that by encouraging learners to develop a deeper conceptual understanding of a subject, learner achievement could be improved.

As the learning activities included are linked and delivered in sequence, lessons can be structured. For example, Geography teacher, Christian Markham, designed a learning sequence in which learners were asked to prepare a weather report. This made use of a wide range of group activities, and culminated in the submission of a final report - all within a one hour lesson. The activities all

contributed to creating and building up knowledge, from researching external web sites to discussing views and voting.

Christian does not believe this would have been possible without the structure provided by *LAMS*. However, it is also very flexible in allowing teachers to decide what resources will be used in a lesson and how they will be sequenced. This gives them the same level of control over pedagogical design that they have in the classroom.

Another feature that appeals to teachers is the ability to adapt whole sequences of learning activities for re-use in different contexts simply by swapping content. This efficient reuse of resources can help to create the capacity that KTC see as crucial to raising standards. Using this approach at an institutional level, it would be possible to build a repository of templates based on good educational practice that can be adapted to each curriculum area.

Benefits for learners

Andrew Parry, Head of E-learning, believes that using activities in *LAMS* improves the way in which learners communicate by encouraging them to reflect on what they are writing. Furthermore, in most classroom discussions, learners tend to be very aware of their peers and often lack the confidence to participate. As learners feel less conspicuous when using the tools, they are much more willing to participate. An additional benefit is that the teacher can monitor activity and participation to be sure that no-one is missed out from the discussion. Contributions can be recorded and later evaluated as part of the learning.

This is echoed by Michelle Draper, Head of Food Technology and *LAMS* co-ordinator at KTC. In her teaching, Michelle has found the tools useful for brainstorming with learners as part of a design process before beginning projects. In addition, reflection, once the project has been completed, contributes towards how they might improve for future work. Importantly, all her learners are equally involved in these group activities, not just the "small percentage that permanently dominates a lesson" in the classroom. Learners described how they liked being able to interact with the whole class and to share opinions rather than working alone, and to have fellow pupils challenge their ideas.

By engaging all learners and encouraging them to take a more active role in lessons, *LAMS* can help learners to be more independent and promote cognitive learning. Vivienne Hughes believes that developing these critical skills at an early stage can have long term benefits on learner performance as they progress to further and higher education.

Key points for effective practice

As with any software, *LAMS* works best when carefully targeted to areas that match the tools available. Once the learning activities are identified, tools can be selected that will support these activities. The teacher retains control over the judgement of appropriate usage by using technology in this selective approach.

When designing a sequence of learning activities, a good approach is to pick out only the key points the teacher wants the learners to discuss and reflect on, and build the sequence around that.

Once a well-designed sequence has proven to be effective, it can easily be repurposed for use in different contexts.

Providing teachers with the tools they require to produce their own resources can be more effective than simply giving them pre-built resources. A key benefit is being able to fit in well with what the teacher wants to achieve in the classroom.

Vivienne Hughes says "Staff appreciate anything that will enable them to focus in the classroom, which is what they came into teaching to do and *LAMS* is all part and parcel of this".

Barriers

There are no quick fixes in e-learning. Raising standards can take time, but the knock-on effect in later years can be very significant.

To be successful, Vivienne Hughes feels e-learning should form part of an overall strategy that properly utilises teachers' time and is driven by management – "you can't just expect them to go and use the technology, the expectation has got to be there and it's got to be driven from leadership groups".

Final word

Andrew Parry describes the expectation that discussion skills between learners will improve, and that this will consequently have an impact on their learning and how they make judgements.

As Michelle Draper says, "Instead of a teacher purely controlling the learning process, it enables the student to take more of an active role in that learning process themselves."

Further details

Vivienne Hughes is happy to discuss the approach taken at Kemnal Technology College and can be contacted in the first instance via email at: vhughes@ktc.bromley.sch.uk

Further information on LAMS is available at www.lamsinternational.com