

Important Issues in 1:1 Digital Learning

Steve Moss
Learning Technologies Strategist and Consultant



Poor Questions

Are iPads good for learning?

Are igloos good for housing?

A good question

What kinds of learning are supported well by particular technologies?

Three more questions

Why are you considering a 1:1 programme?

What outcomes do you expect to improve as a result of implementing a 1:1 programme?

Are you aware of any evidence that shows such an improvement is likely and sustainable over time?

Powerful tensions exist between traditional curricula - based on well-defined content and rules for students to learn and be able to reproduce – and the open, skills-based, student-centred approaches supported by ICT.

Dominant curricular and organisational patterns in school were not designed for the Internet age, and often inhibit its effective use. ICT offers some gain for traditional curriculum delivery, but **its full educational potential cannot be realised without radical changes in school structures and methodologies.”**

OECD, Learning to Change: ICT in Schools (2001)

Visible Learning

When teachers see learning through the eyes of the student



when students see themselves as their own teachers

John Hattie, 2009



Research on Technology and Learning

**76 meta-analyses
4,498 studies
3,990,028 students / teachers
over 30 years**



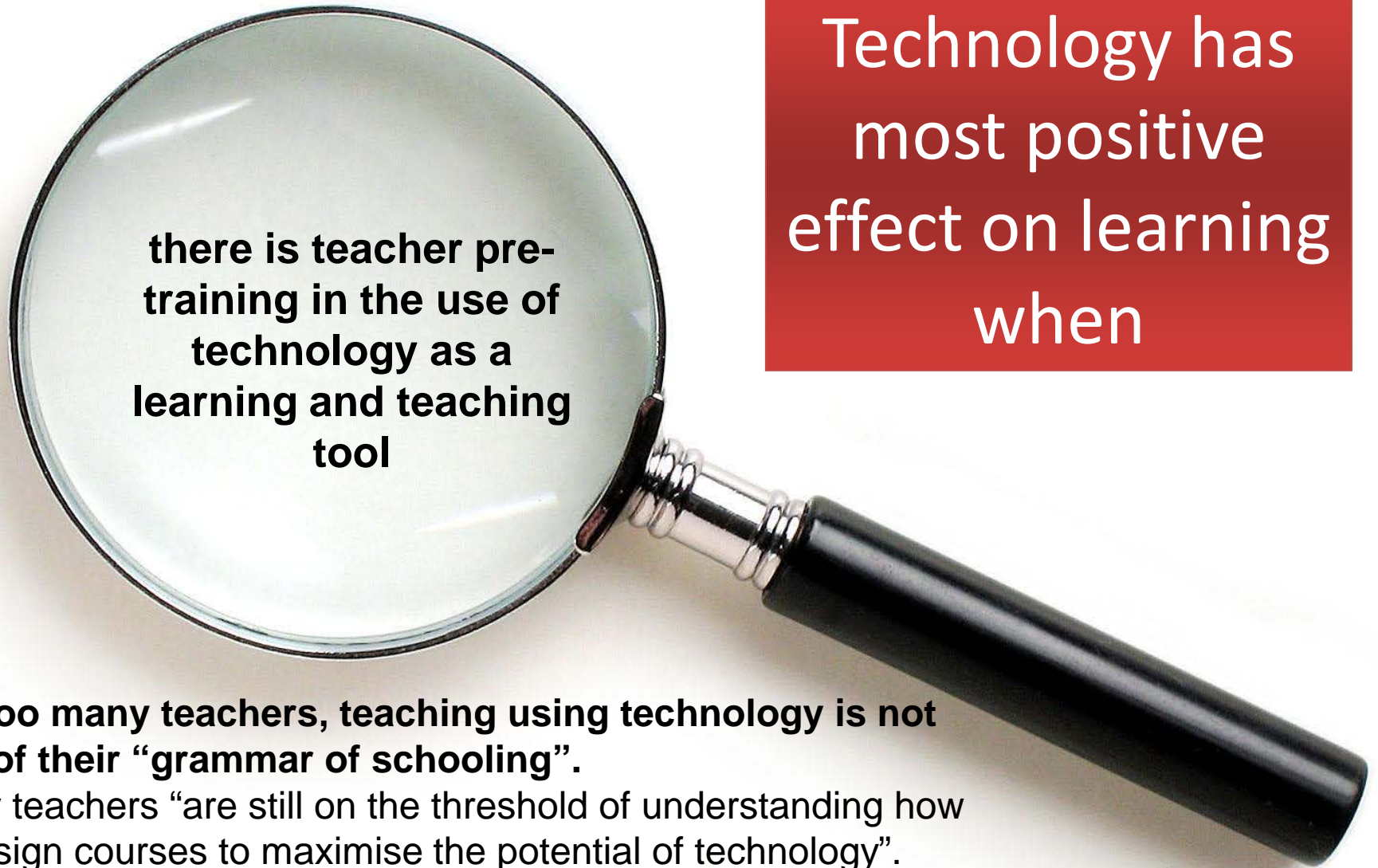
**there is a diversity
of teaching
strategies**

**Technology has
most positive
effect on learning
when**

The method of teaching is most likely to be different from when the teacher instructs the students.

At minimum, students get to experience two different teaching strategies and are offered “deliberative practice” in learning knowledge and concepts.

Technology as a supplement not a replacement for teacher instruction is best.



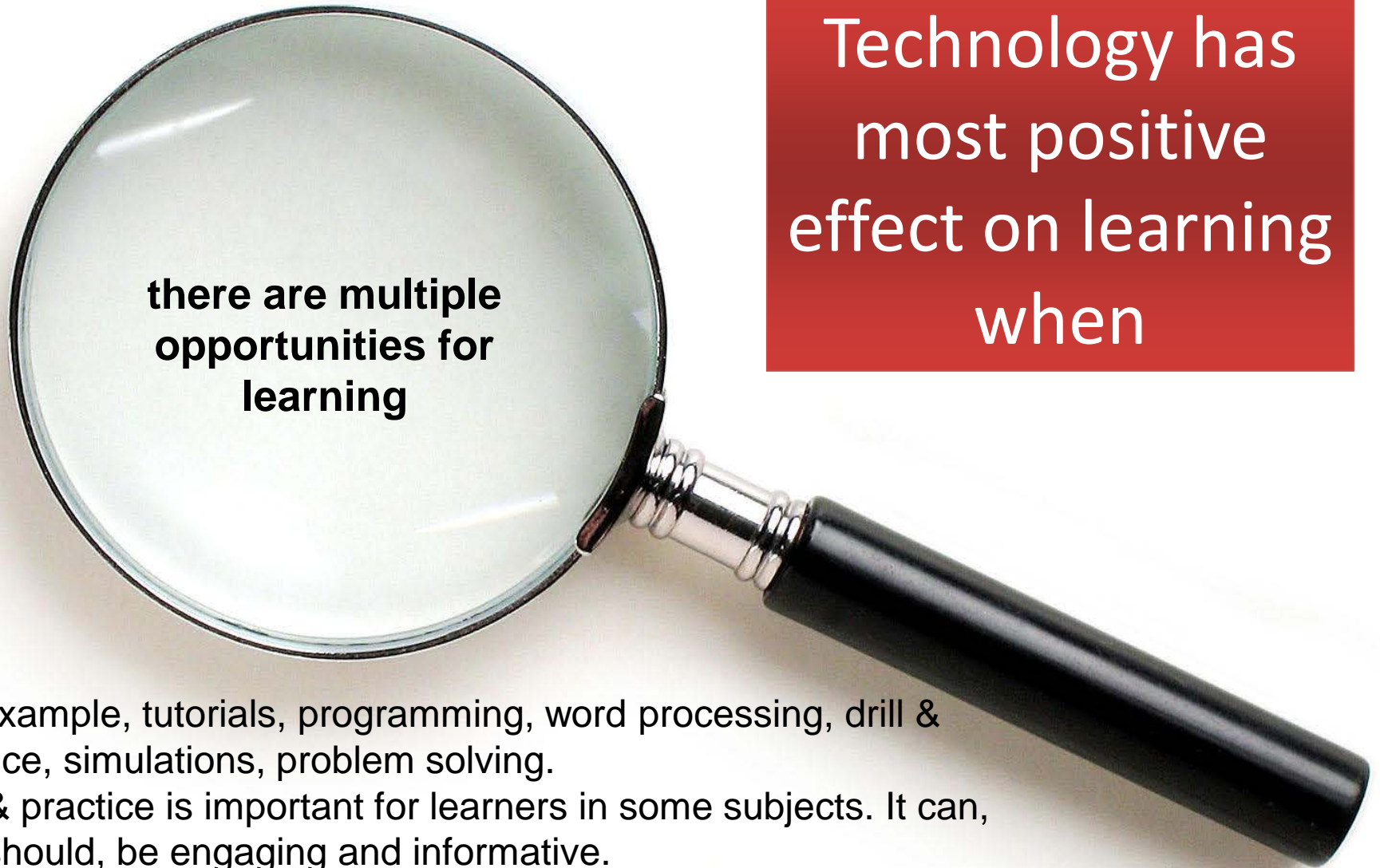
there is teacher pre-training in the use of technology as a learning and teaching tool

Technology has most positive effect on learning when

For too many teachers, teaching using technology is not part of their “grammar of schooling”.

Many teachers “are still on the threshold of understanding how to design courses to maximise the potential of technology”.

More than 10 hours of training over a few weeks is the most effective model of professional development.



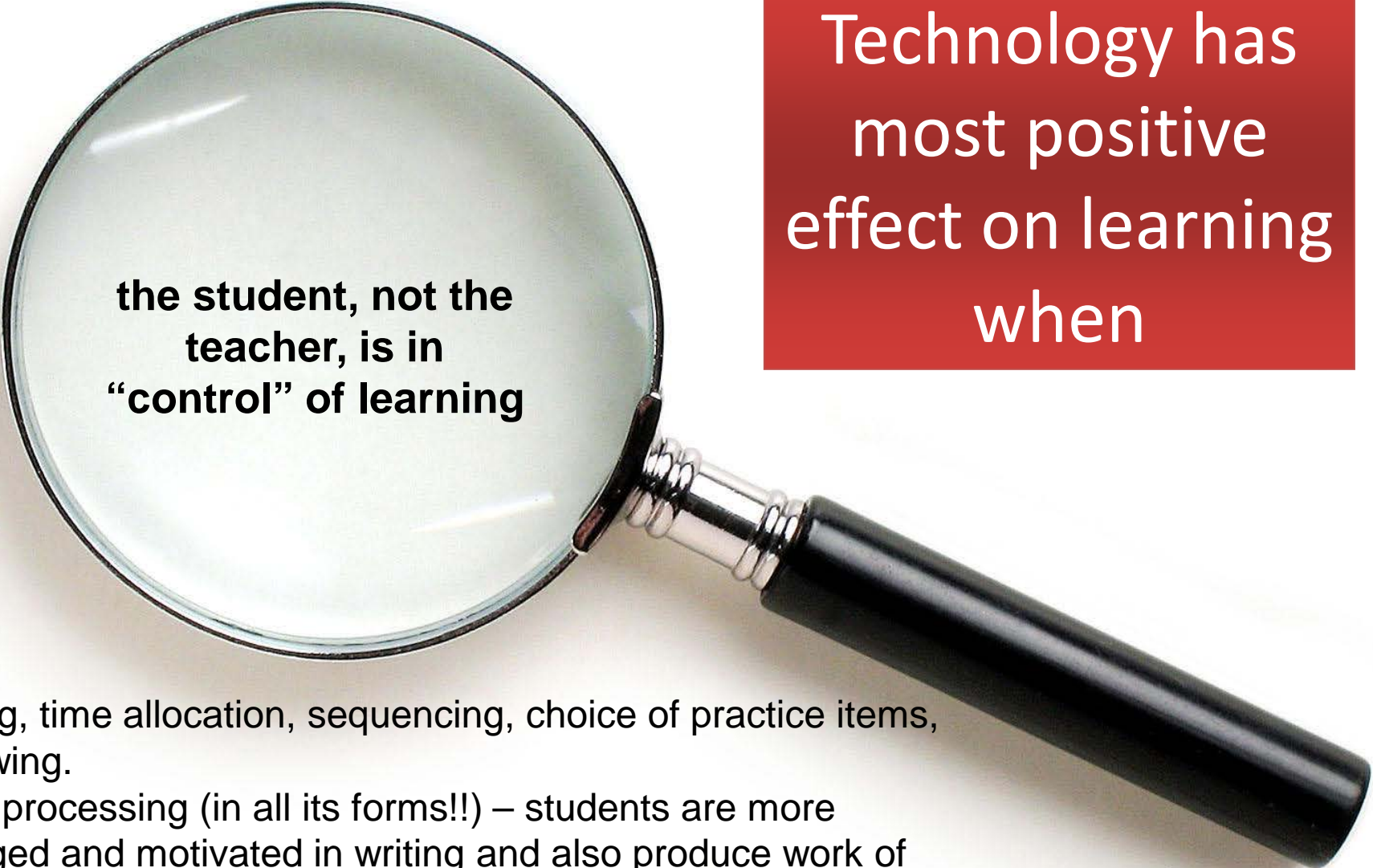
**there are multiple
opportunities for
learning**

**Technology has
most positive
effect on learning
when**

For example, tutorials, programming, word processing, drill & practice, simulations, problem solving.

Drill & practice is important for learners in some subjects. It can, and should, be engaging and informative.

Key attributes of effective technology use for practice include, learner control, clear learning goals, instant feedback.

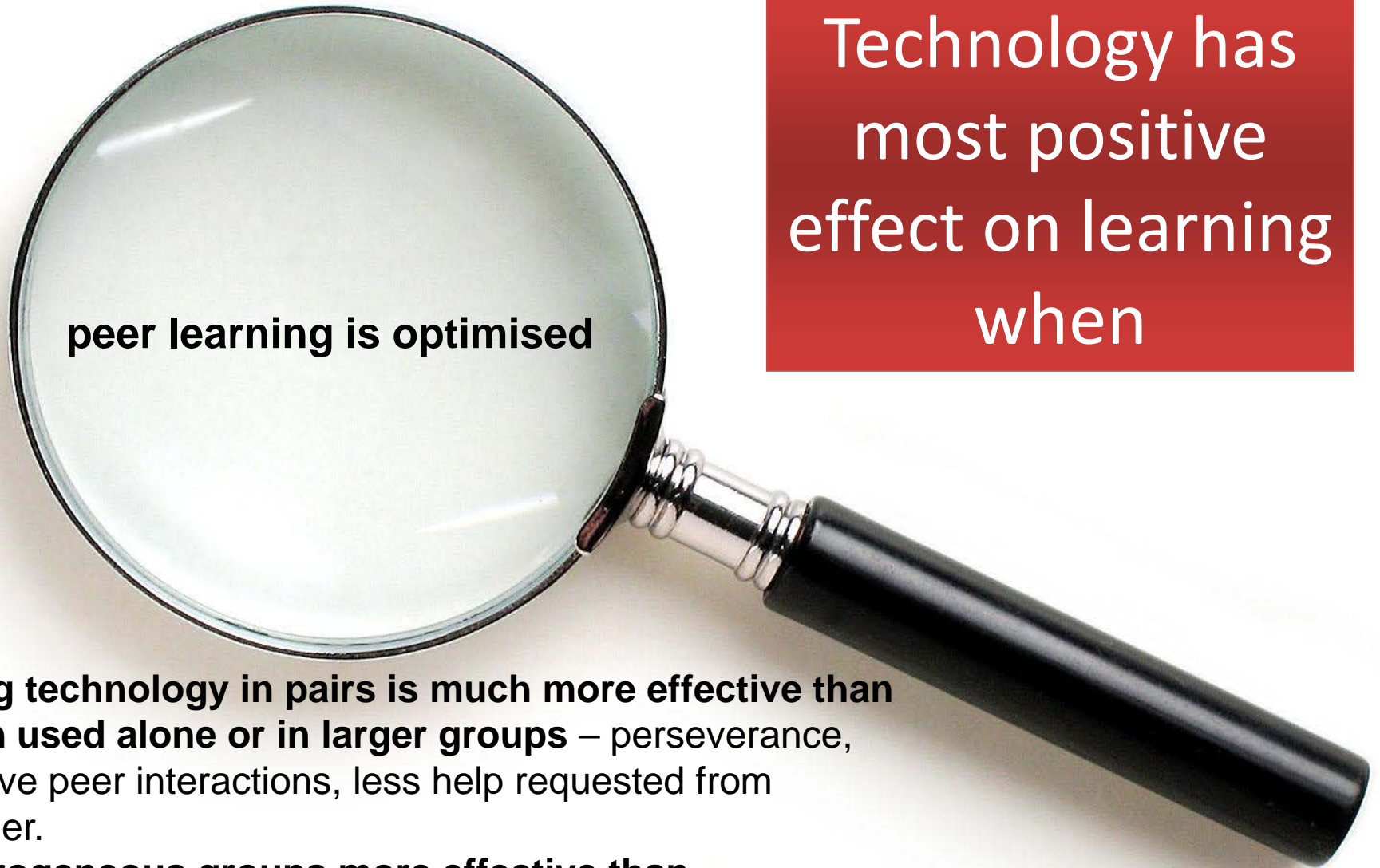


Technology has
most positive
effect on learning
when

**the student, not the
teacher, is in
“control” of learning**

Pacing, time allocation, sequencing, choice of practice items, reviewing.

Word processing (in all its forms!!) – students are more engaged and motivated in writing and also produce work of greater length and higher quality than students writing on paper.

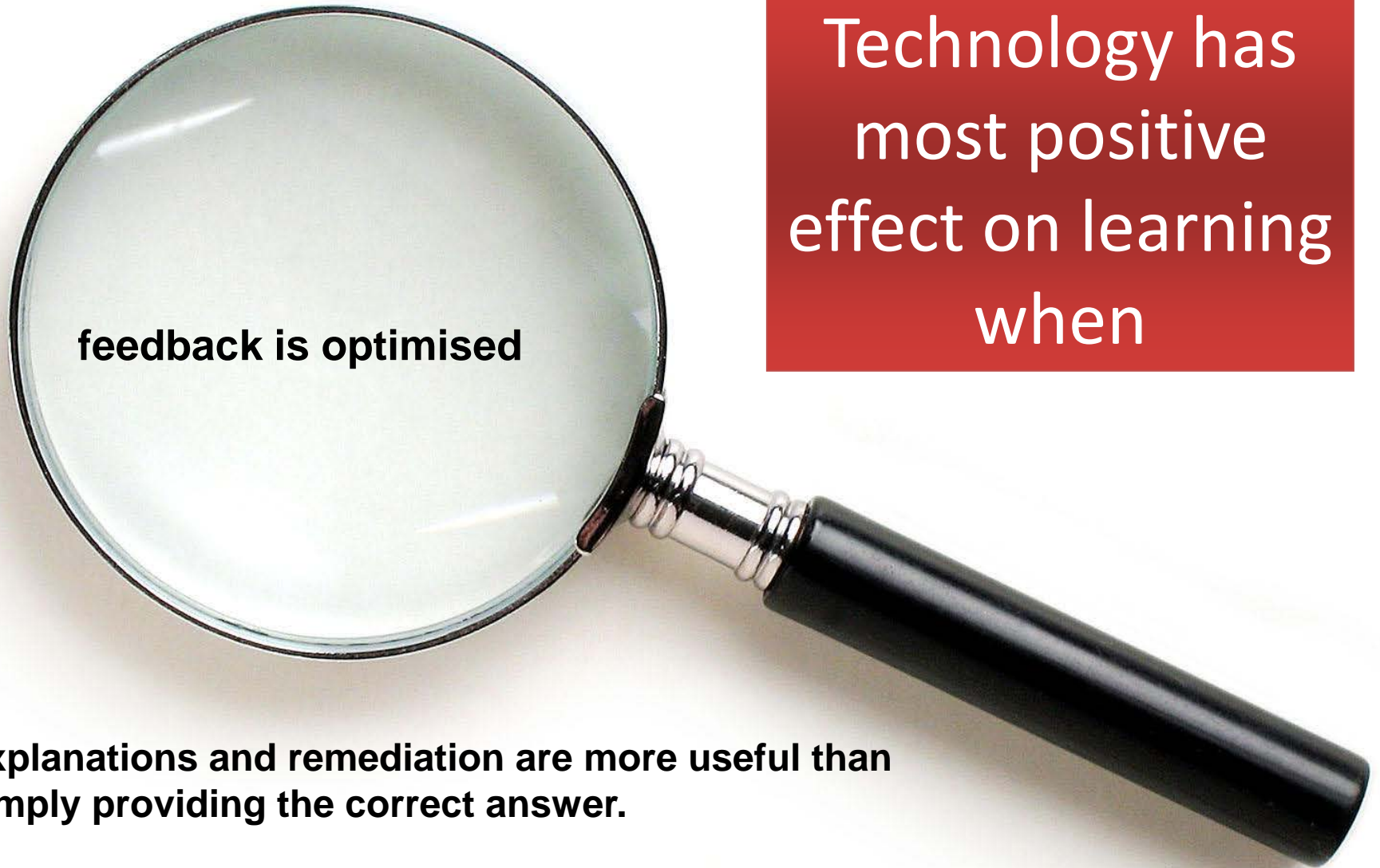


peer learning is optimised

**Technology has
most positive
effect on learning
when**

Using technology in pairs is much more effective than when used alone or in larger groups – perseverance, positive peer interactions, less help requested from teacher.

Heterogeneous groups more effective than homogeneous groups but both more effective than working alone.

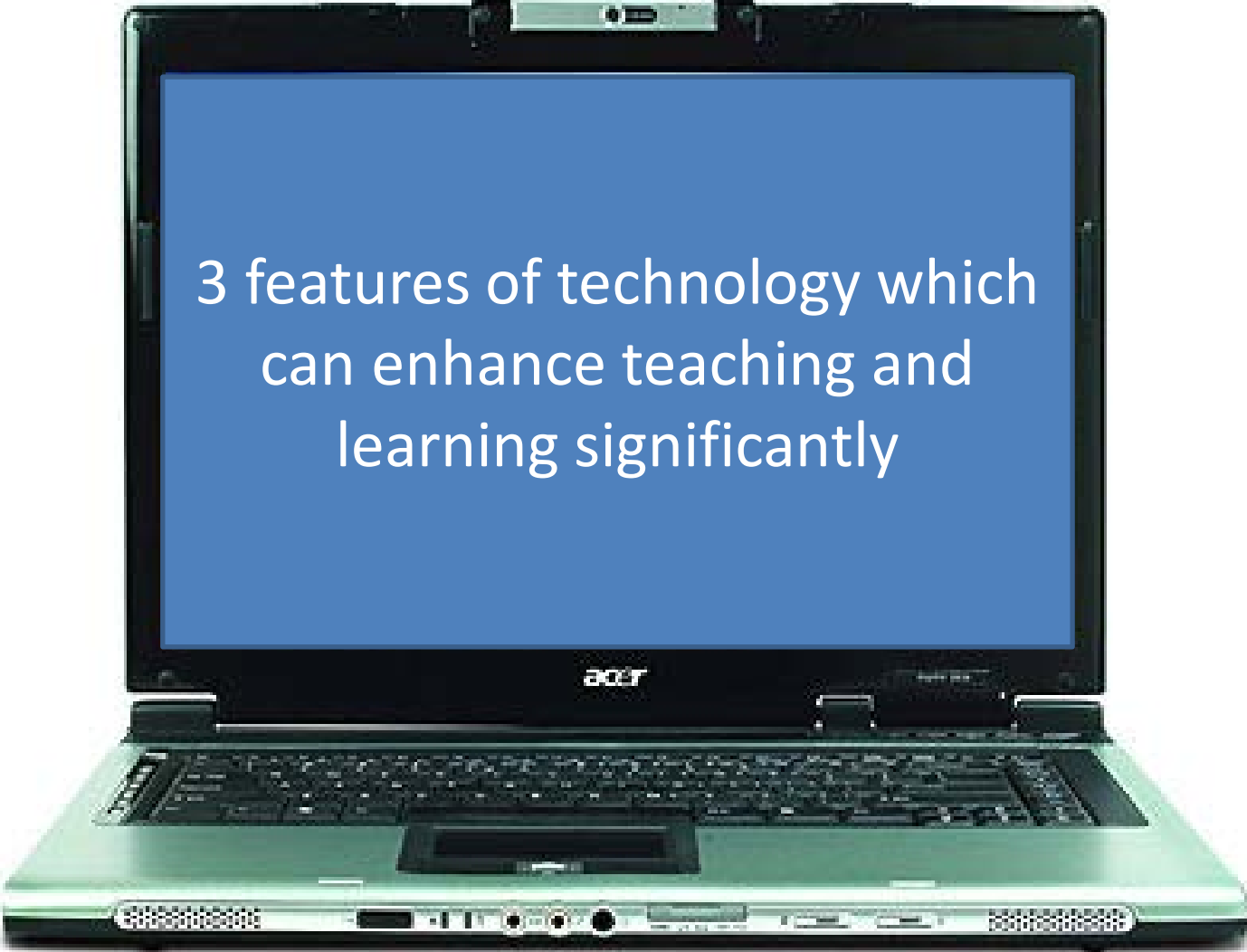


feedback is optimised

**Technology has
most positive
effect on learning
when**

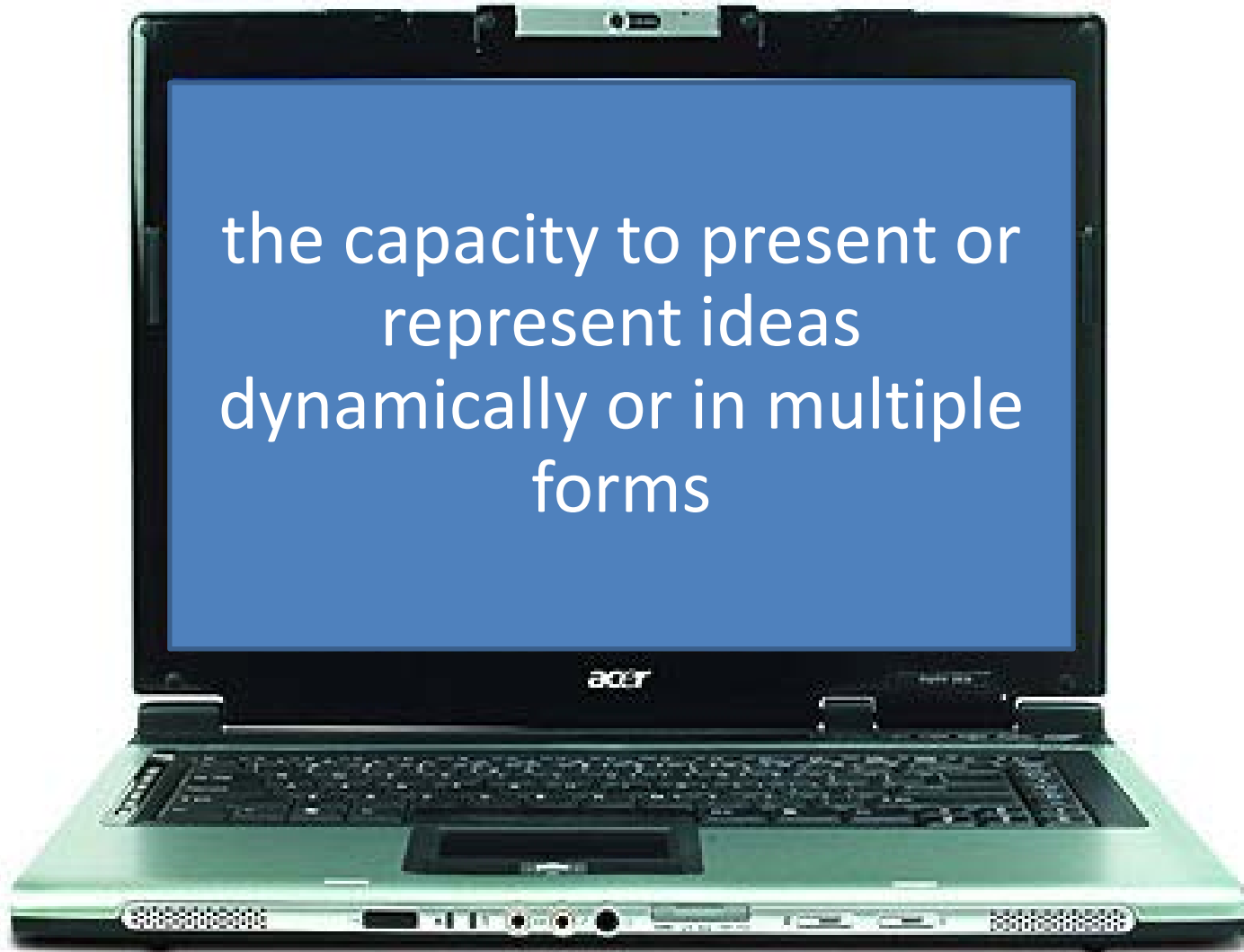
**Explanations and remediation are more useful than
simply providing the correct answer.**

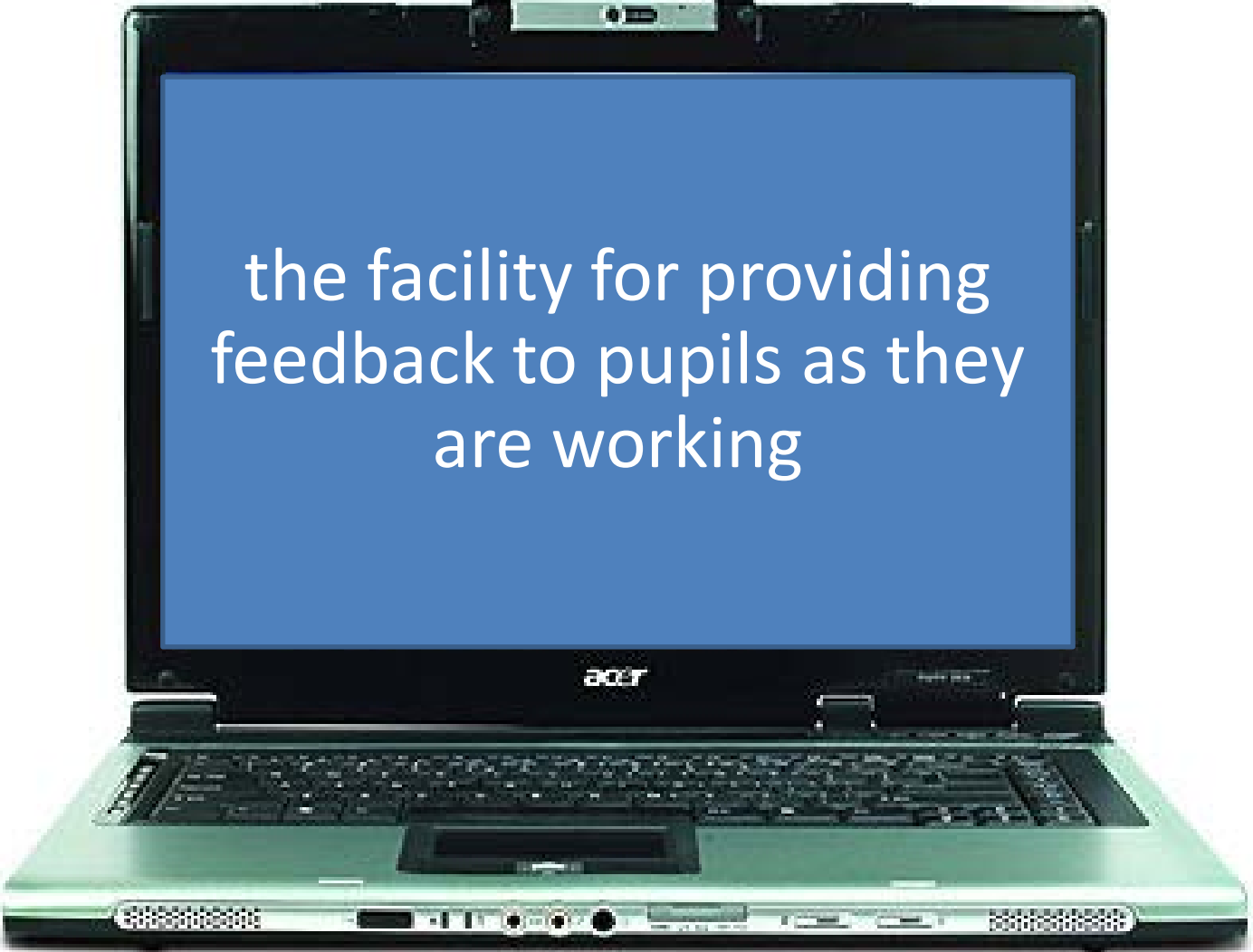


A silver Acer laptop is shown from a front-facing perspective, open. The screen is a solid blue color with white text centered on it. The laptop's keyboard and trackpad are visible below the screen. The Acer logo is printed on the bottom bezel of the screen. The laptop is set against a plain white background.

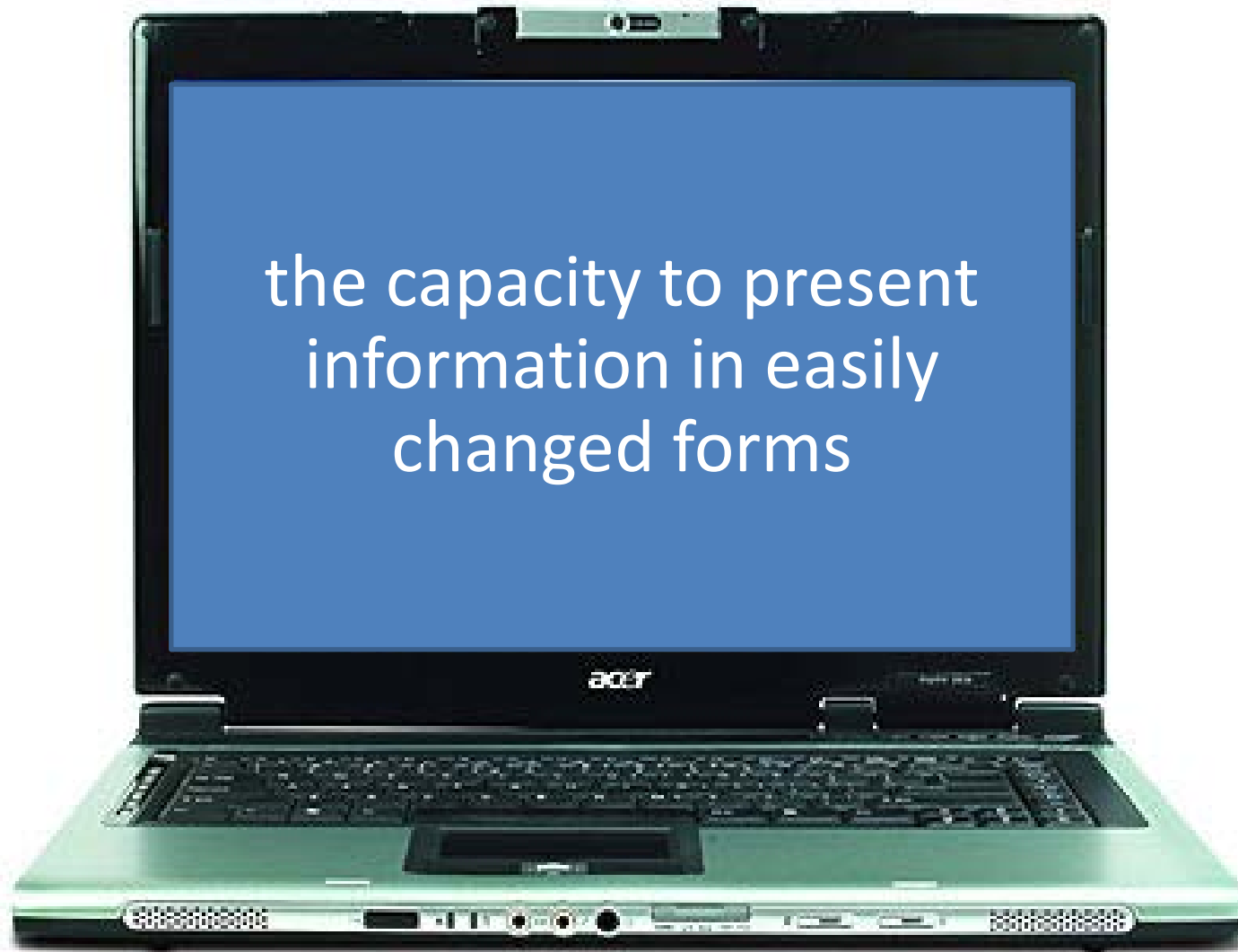
3 features of technology which
can enhance teaching and
learning significantly

the capacity to present or
represent ideas
dynamically or in multiple
forms



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the facility for providing
feedback to pupils as they
are working



Higgins et al, 1999



A mythology of educational technology

Higgins et al, 2012

Myth 1:

New technologies are being developed all the time, the past history of the impact of technology is irrelevant to what we have now or will be available tomorrow.

Myth 2:

Today's children are digital natives and the 'net' generation – they learn differently from older people.

Myth 3:

Learning has changed now we have access to knowledge through the internet. Today's children don't need to know stuff, they just need to know where to find it.

Myth 4:

Students are motivated by technology so they must learn better when they use it.

Myth 5:

**The Everest Fallacy: we must use
technology because it is there!**

Myth 6:

The “More is Better” Fallacy

The 1:1 Guidebook



<http://1to1guidebook.org>

Critical Components of a Successful 1:1 Project

Awareness & Consideration

- Gather best information: research and best practices
- Develop Vision and Goals
- Determine Target Outcomes
- Develop Implementation Strategies

Preparation & Planning

- Determine readiness level
- Create professional development plan
- Create technical services plan
- Create communications plan
- Create evaluation plan

Action & Implementation

- Professional Development
- Purchase equipment and technical services
- Purchase and develop content / applications
- Rollout

Reflection & Refinement

- Collaborate with local HE or national research organisations to assist in evaluation
- Develop metrics and gather data
- Adjust practice from evaluation data and stakeholder feedback
- Review annually, setting goals for the next two to three years

Vision and Goals

- Share information about 21st Century learners and learning environments
- Define the goals of your digital learning project
- Collect ideas and input
- Visit other digital learning project sites
- Craft the vision
- Hold meetings for further input
- Refine the vision to be clear and concise

Developing a Project Team

The development of a project team with a dedicated project leader has been shown to be critical in the success of one to one programmes (Project RED, 2012)

- Select and invite members of the team
- Select an implementation Chair
- Convene a launch workshop
- Develop a schedule of meetings

Tips for Success for School Leaders

- Be firm on principle, flexible on detail.
- Be ready to delegate - trust but verify.
- Build a network of support outside of the school through vendors and other organisations.
- In many of the most successful implementations of one to one, the project team leader has an educational background, has been involved in technology in the classroom for some time and is aware of, but not necessarily the expert on technical issues.
- Advocacy is most important.

“... but the full educational potential cannot be realised without radical changes in school structures and methodologies.”

Homework – further reading

[Tablets for Schools](#) – three “must read” reports from the UK not-for-profit.
Also a brand new [literature review](#) on tablet use in schools

[Smart Classrooms](#) – a report on an iPad trial in 2 schools in Queensland, Australia

[21 Steps to 21st Century 1-1 Success](#) – a great “in a nutshell” guide for schools from the Queensland projects

[The Technology Factor](#) – a seminal report from the USA drawing on experience in many schools. One of the most important research reports on 1-1.

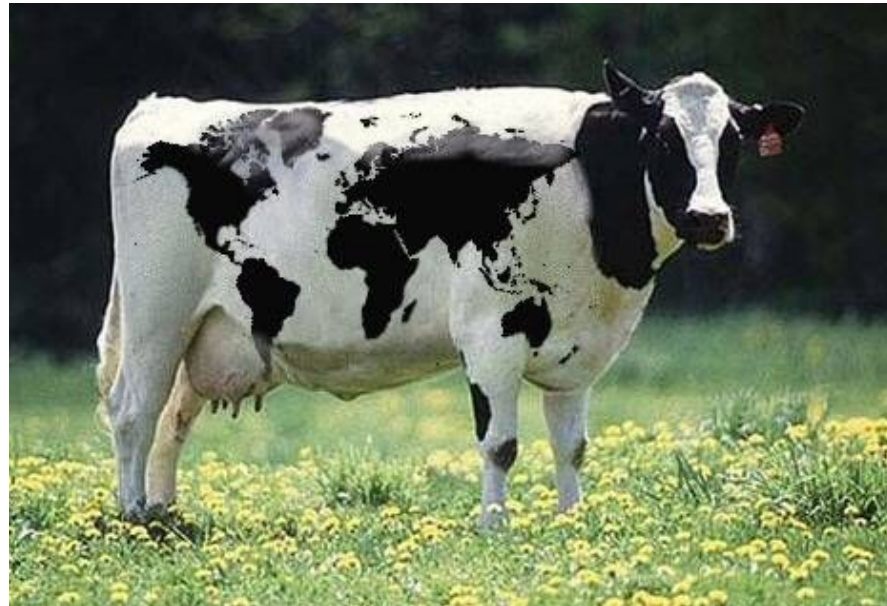
[Scottish Mobile Personal Device Evaluation](#) – a 2012 study by the University of Hull. The focus is on the use of iPads specifically.

[1to1 101 – A Pre-Implementation Guidebook](#) – developed by the Alaska Association of School Boards following publication of The 1to1 Guidebook.

... and, of course,

[The 1to1 Guidebook](#)

Thank you for participating



steve@smconsultancy.net



stevmoss