

LEARNING TO USE ICT IN CLASSROOMS: TEACHERS' AND TRAINERS' PERSPECTIVES



Part two:

Emergent trends from the evaluation of
the NOF ICT programme for school trainers,
ICT advisers and teacher educators

**LEARNING TO USE
ICT IN CLASSROOMS:
TEACHERS' AND TRAINERS'
PERSPECTIVES**

PART TWO

Acknowledgements

This report was commissioned by the Teacher Training Agency and authored by:

Christina Preston

MirandaNet Ltd.
10, Manor Way
South Croydon
Surrey CR2 7BQ

Advisers

Professor David Halpin, *Head of the School of Curriculum, Pedagogy and Assessment Institute of Education, University of London*

Professor Hilary Constable, *Emeritus Professor of Education, University of Sunderland*

Dr. John Cuthell, *Research Fellow, Huddersfield University*

Researchers

Josephine Kingsford, *Essex University*

Nicole Maw, *Institute of Education, University of London*

Dr. Marie Lall, *Institute of Education, University of London*

Paulet Brown, *Institute of Education, University of London*

Wesley Wellcome, *Institute of Education, University of London*

Administrators and Assistants

Karen Glass, Debra Cook, Anne Dobson, Amy Scott Baker
MirandaNet, Oxford

Designer

Dennis Hook

The full report and leaflets about ICT in schools based on this evaluation can be found on

www.mirandanet.ac.uk/elearning/dfes_nof_part1.zip

www.mirandanet.ac.uk/elearning/dfes_nof_part2.zip

For information about the evaluation report please email Debra Cook:
enquiries@mirandanet.ac.uk

In depth NOF case studies can be found on the client research, development and publication website developed by Canterbury Christ Church University College
<http://client.cant.ac.uk/research/case-studies/>



© MirandaNet 2004

This publication is one of three related documents under the title of
“Learning to use ICT in classrooms”

They are:

Part one: A summary of the evaluation of English NOF ICT teacher
training programme 1999 - 2003

Part Two: Emergent trends from the evaluation of the NOF ICT
programme for school trainers, ICT advisers and teacher educators.

Part Three: The full evaluation of the English NOF ICT teacher
training programme (1999 - 2003)

Contents

Emergent trends in ITC Continuing professional development	6
---	----------

Section 1.	
Suggestions for planning effective ICT programmes	7
<i>For policy makers and ICT advisers</i>	7
Policy directions	7
Potential research and evaluation approaches	7
Important factors in ICT planning	8
Funding	8
Web Resources	9
Accreditation	9
Courses were suggested	9
<i>For school senior management teams and staff trainers</i>	9
The needs identification process	9
Time issues	10
Access	10
The programme design	10
Assessment and Accreditation	10
Leadership and school culture issues	10

Section 2.

Activities for ICT whole school CPD programmes	
Whole school planning audit	
Activity one	12-13
Building School ICT capacity and promoting systemic change in teaching and learning	
Activity two	14-15
School strategies for CPD development over five years	
Activity three	16-17
The School learning community	
Activity four	18-19

Glossary of terms used in this publication:

ATP	Approved Training Provider
CPD	Continuing Professional Development
DfES	Department for Education and Skills (previously DfEE)
elearning	The terms 'elearning' and 'online learning' in this Report refer to learning which has some form of electronic component
ICT	Information and Communication Technologies
INSET	In-service training, now being replaced by the term CPD
LEA	Local Education Authority
NGfL	National Grid for Learning
NOF	New Opportunities Fund
OFSTED	Office for Standards in Education
QA	Quality Assurance
TTA	Teacher Training Agency
RBC	Regional Broadband Consortia

Emergent Trends in ICT Continuing Professional Development

The evaluation results from across a sample of 1,000 schools revealed two key findings. First, that by the end of 2002, there was a high level of *awareness* within the profession about the potential of ICT in teaching, learning and administration. Secondly the evaluation also revealed that ICT use was still an emergent field; only a minority of the schools had truly *integrated* ICT across all areas of school work. The ICT education of beginning teachers and practising teachers clearly has many years yet to run.

This section of the evaluation report, Emergent Trends, concentrates, therefore, on the wealth of experience and knowledge that was contributed to the survey by all the participants in the ICT community in England: the policy makers, the senior managers, the teachers, the teacher educators, the specialist journalists and the Approved Training Providers (ATPs).

The majority of these observations and comments were made by only one or two respondents and should not, therefore, be given the weight of recommendations. The reason for recording these suggestions, although they cannot be quantified, is that in an emergent field like ICT the experience and achievements of the pioneers and innovators can be helpful to the rest of the community who are still testing solutions.

Particular care must be exercised in judging the effectiveness of elearning and web resources. These effective strategies have been extrapolated from a 5% evidence base in 1999 which seemed to grow to about 20% by 2002. The suggestions here, therefore, refer more to the respondents sense of potential rather than to what has already been achieved by significant numbers. The current lack of teacher educators in elearning, as well as lack of access, was a factor which held back developments in this area.

This report is in two sections. The first section, 'Suggestions for planning effective ICT programmes', co-ordinates the suggestions that were made by the contributors about planning good ICT programmes in the future. They are grouped under suggestions for policy makers and ICT advisers and suggestions for schools.

In the second section, 'Suggestions for ICT whole school CPD programmes', the team have re-analysed evidence from the case study schools to develop four activities for schools which might help to generate holistic thinking about the role of ICT, the commitment required and the timescales involved. These have been designed to be easily photocopyable.

In this report the term 'teacher educator' is used instead of 'teacher trainer'. The term 'ICT adviser' is employed rather than 'Approved Training Provider'. 'ICT adviser' embraces teacher educators, LEA advisers, cluster advisers and teachers in schools who work directly with school staff. In some cases, particularly at a local level and in primary schools, the same person may be engaged in both functions. The term 'policy maker' includes planners at national government levels down to individual school's senior managers.

Section I: Suggestions for planning effective ICT CPD programmes

For policy makers and ICT advisers

This section is grouped under 6 headings: policy directions, potential research and evaluation approaches, important factors in ICT programmes, funding issues, web resources and accreditation.

Policy directions

There have been significant changes in government policy towards teaching and learning since the NOF programme started in 1999. Collaborative and constructive learning as well as practice based learning is now recommended and consultation with the profession is more widely practiced. The ideas for educating teachers in ICT that were suggested by teachers and ATPs appear, for the most part, to promote constructivist learning theories in which ownership is paramount as well as building learning communities.

Across the three evaluation cohorts of teachers, ATPs and policy makers, a range of emergent trends indicate the need for further work in ICT CPD areas that policy makers, programme designers and school leaders may wish to note:

- Collegiality and community-building through support for professional bodies and ICT communities of practice.
- Consultation with the profession on the content and context of new ICT programmes to create a wider sense of ownership.
- More emphasis on the training of Senior Management Teams (SMTs), ICT co-ordinators and emoderators as an intrinsic aspect of the school approach.

Potential research and evaluation approaches

The need for formative evaluation and quality assurance of ICT projects at any level was a major recommendation by most commentators. It would appear that evaluation methods are also evolving. Challenges are emerging from professional understanding of the digital media and the pedagogical affordances of ICT, which vary with the context in which it is used. Topics for further research included:

- Improving knowledge about effective evaluation and self evaluation
- Increasing understanding of elearning theory
- Developing more aspects of classroom pedagogy linked with practice
- Studying the language of pedagogy in the teaching profession and encouraging vocabulary enrichment through research based practice
- Reviewing the use of ICT and elearning to raise standards and transform teaching and learning.
- Exploring new approaches to assessment and accreditation for teachers and students promoted by multimedia as well as using multimedia.

LEARNING TO USE ICT IN CLASSROOMS

LEARNING TO USE ICT IN CLASSROOMS

- Investigating professional understanding of the multi modal and the multimedia impact of communications media.
- Examining strategies to deal with the dangers and challenges that emerge from the use of ICT in education.

Important factors in ICT planning

Length of training as well as quality was a recurrent theme. The evidence from this evaluation suggests that short ICT courses are largely ineffective if they are not part of a school development plan. 20 day (or more) ICT CPD modules for teacher educators were suggested in which ‘trainers’, advisers, aspiring eteachers and emoderators that focus on transforming teaching and learning as well as raising standards. Several suggestions were also made about negotiating for ASTs with ICT capability (or other teachers on more flexible terms) to deliver at least one ICT course per term, thereby, keeping practitioners up-to-date.

Other advice from planning practitioners is listed below.

- Free up adequate time for reflection and sharing.
- Discuss the school vision for teaching and learning with staff and students at the start of the programme.
- Commit time to pre-planning, negotiation with trainers and budgeting.
- Encourage heads and senior managers to join the programme.
- Ensure that all teachers’ study expenses are covered.
- Discuss how the programme will advantage the school from the start.
- Link the goals with the school development plan.
- Provide face-to-face support for teachers who are beginners.
- Develop a collegiate approach to investigation, exploration and support.
- Encourage the taking of risks by the advanced and the adventurous.
- Promote research based practice techniques in order to implement and sustain change in classrooms.
- Suggest web based and paper based portfolios of exemplars for the whole staff to learn from.
- Provide multimedia and multimodal resources that promote interactivity for teachers and pupils.
- Provide alternative learning models to support different learning styles.
- Agree feasible deadlines and keep to them.
- Combine in-house training with meetings with colleagues in other schools.
- Promote ICT that seem to make a difference to teaching and learning, especially differences that can be observed.

Funding Issues

- The inclusion of initial teacher training in Government ICT initiatives as a matter of course.
- An increase of practice-based research bursaries for teachers.
- Provision of high bandwidth connectivity as the norm at home for teachers.

LEARNING TO USE ICT IN CLASSROOMS

LEARNING TO USE ICT IN CLASSROOMS

Web resources

- Promote web resources and CD-ROM content that engage teachers in the new forms of the multimedia and interactive communication that the ICT offers. Demote linear materials online.
- Improve teachers' creation and use professional knowledge bases.

Accreditation

- Provide accreditation activities designed to change practice in the classroom.
- Continue the overhaul of policies on assessment, accreditation and examinations for teachers and students.
- Put more emphasis on creative collaborative learning and modify accreditation for teachers to include this aspect of their learning.
- Link with the cycle of professional review.

The following courses were suggested:

- Vision-building and community building for leaders and ICT co-ordinators.
- Experience and education in the use of virtual learning environments for emoderators and forums.
- The role of ICT in administration, workload and remodeling the profession.
- The role of ICT in creativity and thinking skills.
- The role of ICT in international citizenship.
- Promoting understanding of the technological contexts that young people experience outside school and the skills they need, including verification and validation processes and the development of Internet codes of conduct in school.

For school senior management team and staff trainers

General suggestions and recommendations for Information and Communications Technology (ICT) continuing professional development (CPD) which occurred across the sample are arranged under these headings: the needs identification process, time issues, access, the programme design and accreditation and assessment, leadership and school culture issues. Advisers and SMTs will want to select from this advice to suit local circumstances.

The needs identification process

- Develop a needs identification process for novice computer users that does not depend on skills and knowledge in the use of computers.
- Create a simple needs analysis procedure which does not present advanced computer terminology to the novice.
- Organise group CPD to focus on different phases and/or subjects in collaboration with teachers from other schools.
- Set up regular face-to-face meetings and workshops with the trainer or mentor in the early stages.
- Increase one-to-one teaching to cope with the range of abilities.
- Allow for more time spent in workshop activities investigating software and seeing how it can be used as a teaching tool in preference to reading and writing.

LEARNING TO USE ICT IN CLASSROOMS

LEARNING TO USE ICT IN CLASSROOMS

Time issues

- Provide adequate support cover and scholarships or bursaries for longer courses as well as short ones, so that teachers have time for practice based research learning cycle: learning skills and understanding concepts, consolidation of skills, implementation, reflection, sharing with colleagues, re-construction of concepts and embedding in curriculum.

Access

- Delay the Continuing Professional Development Programme (CPD) until all the equipment, including broadband is in place and working well.
- Encourage the provision of laptops for teachers, interactive whiteboards in classrooms and digital cameras to promote talk on pedagogical issues.

The programme design

- Provide differentiated programmes with appropriate resources ranging from 'absolute beginners' to 'world expert'.
- Enable users to select specific ICT modules that match their perceived needs.
- Offer choices within mixed models to suit different learning styles: varied modes of presentation; modes for resources and manuals to include both paper, online and notes from tutor sessions; face-to-face training in building up the confidence of teachers who lack ICT skills and online training options for the more proficient and the more motivated teachers.
- Offer online resources for teachers that are interactive and branching rather than linear.
- Offer customisation of resources rather than 'one size fits all'.
- Make the educational software used in an ICT programme available in school from the start in order to transfer skills into the classroom.
- Implement ICT in classroom practice as part of the course to encourage practice based research as well as peer mentoring.
- Instigate conditions that encourage more subject specialist training within the school.

Assessment and Accreditation

A general complaint seemed to be recording of ICT experience for the sake of the accreditation only. Below we have noted emergent trends in accreditation and assessment that teachers seemed to consider to be constructive and useful, which included the provision of:

- Levels and types of courses selected according to individual training needs.
- Shared accreditation portfolios published for reference by the whole staff.
- Practice based research projects building on teaching and learning in the classroom for the long term.
- Clear targets and deadlines.
- Differentiated assessment.
- Apply email mentoring and tutoring support to increase collaborative learning and assessment.

Leadership and school culture issues

- Ensure the head and the senior management team accord their full support for the use of ICT in teaching and learning and raising standards and define what this means.
- Select an ICT leader and team to look at teaching and learning issues in the widest possible context.

LEARNING TO USE ICT IN CLASSROOMS

LEARNING TO USE ICT IN CLASSROOMS

- Engage the staff to develop a positive attitude towards transformation and systemic change with the aim of a consensus.
- Develop relationships between external trainers and in-house staff trainers so that the staff have ongoing help on-site.
- Pay careful attention to the funding of proposed ICT CPD to include adequate time for teacher learning and reflection outside the classroom.
- Make creative use of supply teachers, teachers on short contracts from abroad and ASTs to release classroom teachers to learn about e-teaching and e-learning and in some cases to support ICT activities.
- Integrate detailed and effective quality assurance procedures and self-evaluation processes from the start of the ICT programme.
- Link goals with those in the schools ICT development plan

There was some evidence in the school case studies that leadership training from the National College of School Leadership was beginning to have impact on school development plans and on heads' understanding and competence in e-learning based on Talking Heads experience.

A few members of SMTs were participating in the Pilot Strategic Leadership of ICT Programme (SLICT), which is the first national programme to address leadership of ICT within schools designed by headteachers for headteachers.

Developed jointly by Becta and the National College for School Leadership (NCSL), the programme will build capacity for up to 10,000 places during the next 3 years. SLICT aims to enable heads to gain greater e-confidence, to be secure in their professional judgement and to lead ICT in learning, teaching and management within schools. This may help to address some of the leadership issues in the evaluation.

Through this self and peer review programme, heads have the opportunity to work collaboratively to gain skills and develop new understanding about ICT, through face-to-face and online learning. SMTs may want to explore this training route.

One aspect of this programme that was mentioned by SMTs was the features of an e-confident school. The 10 key features of the e-confident school are:

- High levels of staff confidence, competence and leadership.
- Re-engineered teaching, learning and assessment, integrating effective use.
- Leading and managing distributed and concurrent learning.
- Effective application within organisational and management processes.
- Coherent personal learning development, support and access – for all leaders.
- teaching and non-teaching staff.
- Secure, informed professional judgement.
- Appropriate resource allocation to ensure sustainable development.
- Availability, access and technical support.
- Pupils/students with high ICT capability.
- School as the lead community learning and information hub.

Section 2: Activities for ICT whole school CPD programmes

These four INSET activities have been based on the evidence from this evaluation. ICT can provide a useful catalyst in the process of change. The questions are, therefore, intended to promote discussion within the SMT and the staff about the best way to promote systemic change to improve teaching and learning.

Activity One: Whole School Planning Audit

The following questions test the fundamental beliefs and assumptions of the staff. The SMT will need answers in order to create imaginative ICT continuing professional development opportunities. The questions are based on trends emerging from the NOF evaluation. However, this is a complex area of school leadership, so schools will often need to devise unique solutions that reflect local conditions.

How does the use of ICT fit into our established learning culture?

- * In what ways do we expect ICT to impact on our school:
- * As a catalyst to help students to be more independent learners;
- * As a means of encouraging staff to think differently about teaching and learning;
- * As a means of raising standards in traditional curriculum subjects;
- * As a resource to promote new aspects of learning such as citizenship, creativity and thinking skills;
- * As a means of increasing contact with the home, national and international communities?
- * Where can we find evidence of achievement by other schools?
- * How will key members of staff be engaged in this debate?
- * How will the implementation of an ICT CPD programme impact on performance in SATs and traditional exams?
- * Could this CPD programme lead to the identification of innovative and inclusive learning models?
- * Could this CPD programme lead to different kinds of evaluation of learning?
- * Does our school development plan reflect our views?
- * Do we need to drop or modify an aspect of staff training to make space for this initiative?

An ICT CPD programme for staff

- * Which senior manager will lead the project purposefully, involve the staff and agree with them the pace of the project and how best to manage its implementation?
- * Is there appropriate time and training for lead teachers and project managers?
- * Can adequate time be prioritised for full staff involvement?
- * How will we audit staff needs and deal with basic skills training?
- * How can we allow for different teachers' learning styles?
- * What paths will we offer for teachers who do not wish to engage with the programme?

LEARNING TO USE ICT IN CLASSROOMS

LEARNING TO USE ICT IN CLASSROOMS

- * How can we help staff to develop an action plan which identifies ICT directions that interest them and direct them to further consolidation of their practice or the development of new skills areas?
- * How can we encourage staff who elect to run experimental and innovative ICT projects and help them to build in milestones with a portfolio of achievement?
- * How can we motivate and reward our staff: by access to online laptop computers, support cover, accreditation, technical support, web publication of successful projects?
- * How will we ensure that the achievement of the project outcomes is discussed with individuals as a part of the cycle of professional review and development?
- * Teachers of different subjects may require different approaches to CPD programmes. How will this be pursued?
- * How a range of accreditation should be offered to suit staff diversity.
- * Will elearning facilities extend opportunities for staff learning?
- * How will we select external agencies to support the ICT programme and who will liaise with them?

Funding staff development

- * What national and local funding for teachers' professional development is available in relation to the National Grid for Learning?
- * What European Union funding channels could be used to increase staff links beyond the classroom?
- * How much should we allow for teachers' expenses when they are studying with external agencies? Study bursaries usually include broadband expenses from home, hardware and software, travel, subsistence and overnight expenses for seminars and conferences, journals and books.
- * Should we explore the availability of study grants from the LEA, Teachers' International Professional Development (British Council). LEA grants and other local sources of funding?
- * Could our local community or experienced teachers and students provide workshops and mentoring for staff?
- * Is there a broadband infrastructure provided by the government and/or the local region?
- * Do we have enough hardware, econtent and staff access to make ICT CPD a viable option?
- * Are there resources for maintenance, repair and consumables if we use the system more?
- * Are we clear about our approaches to teaching IT and teaching ICT across the curriculum?

Quality assurance and evaluation

- * Do new resources such as interactive whiteboards and digital cameras offer enhancements to the curriculum?
- * How will we know when we are achieving our ICT programme objectives in terms of the quality of implementation, outcomes and the impact of the training on professional practice?
- * What will the feedback and reporting cycle be and who will be involved?
- * Will students and the wider community be involved in the evaluation process?
- * Can we celebrate teachers' and students' learning achievements on our website?
- * How will we monitor the impact of continuing professional development across the school?
- * How will we blend new ways of working and innovative assessment methods with traditional practice?

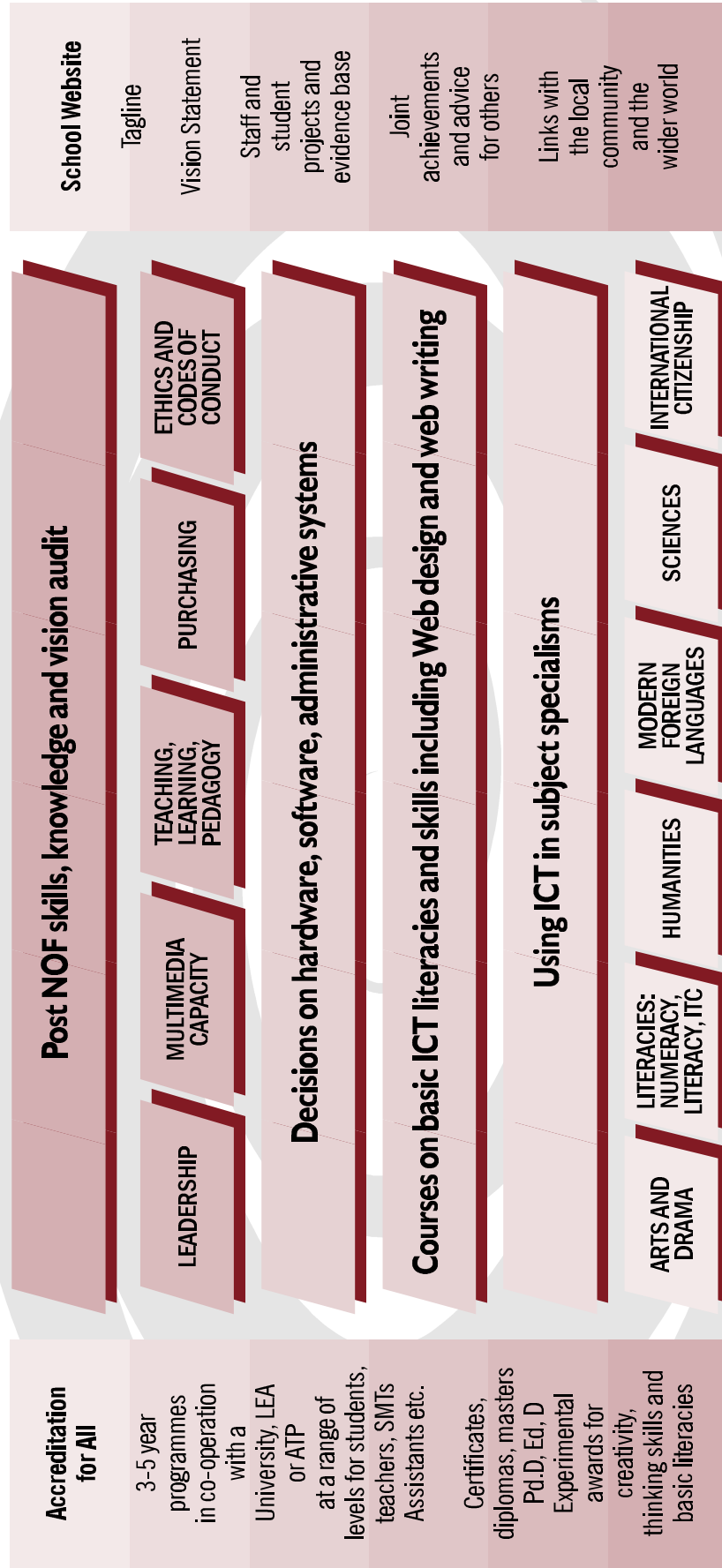


Figure 1. Building School ICT Capacity and promoting systemic change in teaching and learning

Activity 2: Building School ICT capacity and promoting systemic change in teaching and learning

This discussion activity presents the range of areas that the Senior Management Team might consider if ICT is to be used intuitively throughout the school in the curriculum, in administration and in communication.

The top box in the figure one model identifies the need for an extensive audit of the schools' resources and the teaching and learning policy. A staff consensus about the purpose of innovating with ICT seems to be an important element in successful takeup. Successful schools are realising that learning technology can advance their teaching and learning goals. ICT for learning is changing all the time and schools will need a continuous programme of ICT staff development.

In particular, the school will want to be sure that the purchasing decisions and the arrangement of the computers fits in with the teaching and learning approach. Schools may also want to explore the teaching and learning model underlying major software. Some of these packages present a considerable investment. Virtual Learning Environments, for example, with features that only promote traditional teaching and learning or are designed for the needs of higher education may be unsuitable for schools.

Schools are advised to use this model as a stimulus to develop agreed models of their own.

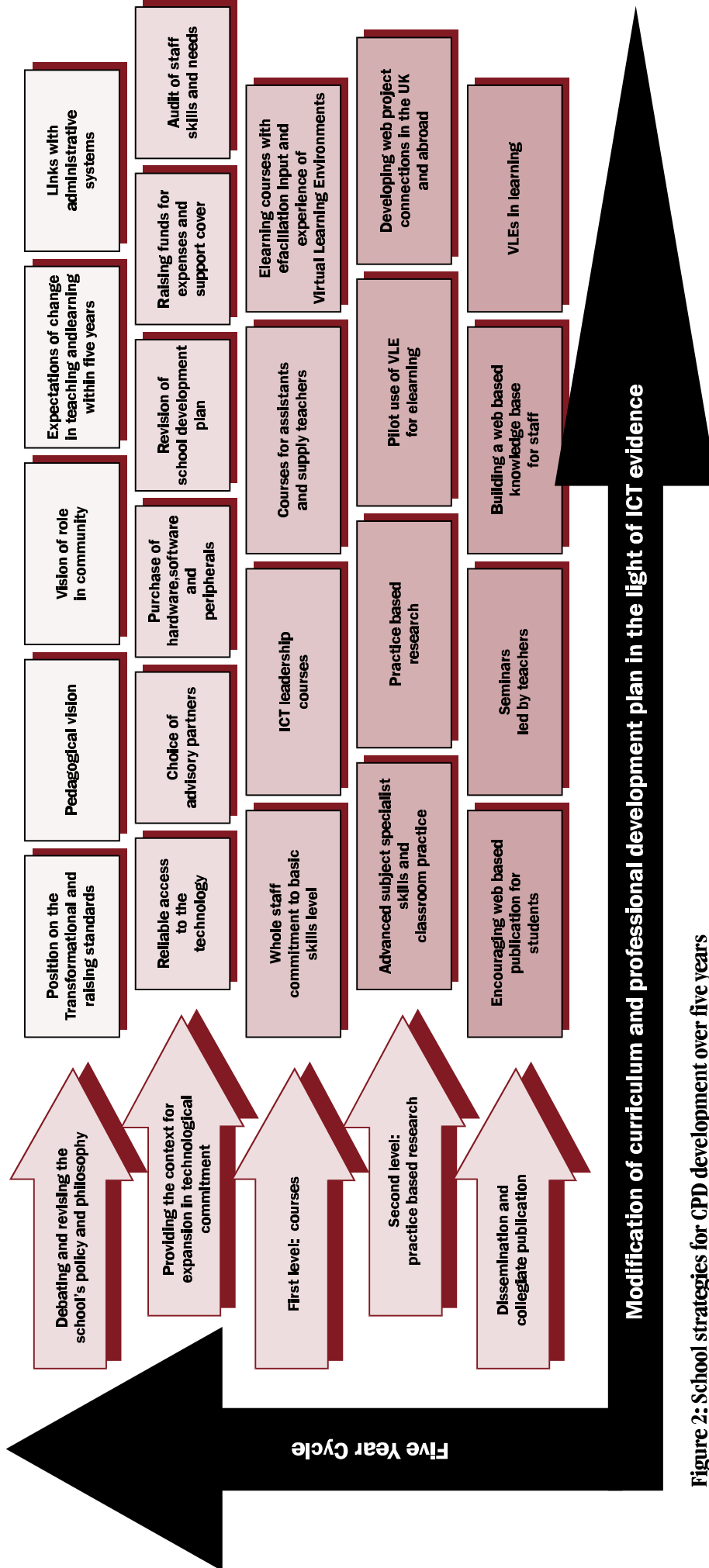


Figure 2: School strategies for CPD development over five years

Activity 3: School strategies for CPD development over five years

This activity can be used to promote discussion about the way in which teaching and learning might grow over three to five years. The boxes in figure 2 indicate the areas that might to be considered overall, but the staff will all be at different stages of ability and aptitude, and so will their co-learners, the students.

Some may be ready to start practice-based projects in the classroom in the first year whereas others will need a course in basic skills. Teachers also have different roles, learning styles and interests which CPD plans may be able to address.

Heads will want to be sure that they are promoting a balance of skills, talents and interests throughout the staff. This means that it is not necessary for all the staff to attain the same achievements as long as the school has the right mix of expertise overall.

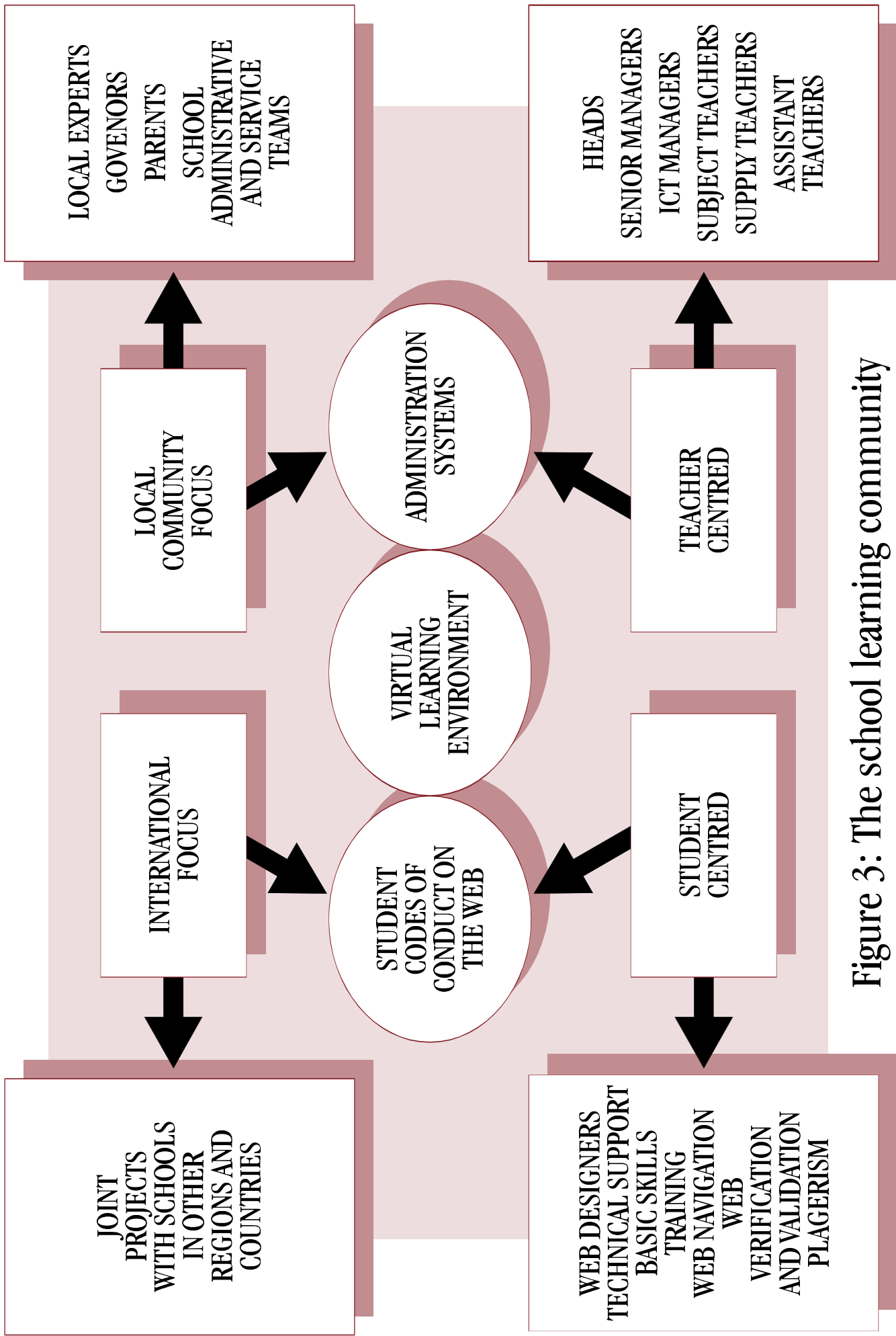


Figure 3: The school learning community

Activity 4: The school learning community

This activity is intended to stimulate thinking about pedagogy. Classroom teachers will benefit from articulating their knowledge and practice and establishing a common vocabulary.

The pedagogical models that might be explored through the use of ICT in the classroom are illustrated in figure 3 shown opposite. The use of ICT in the teacher centred and the student centred classroom is well documented. However many schools may want to pursue opportunities for linking with local, regional and international communities through elearning links. The impact on learning in the school will then be an interesting strand for discussion.



www.mirandanet.ac.uk
www.worldcitizens.net

MirandaNet Ltd

10 Manor Way, South Croydon, Surrey CR2 7BQ
enquiries@mirandanet.ac.uk

Registered in England and Wales, Company No: 04021587 VAT No: 701848150



ISBN 0 854 736696 4