# Personalising learning: the learner perspective and their influence on demand

## Review report – April 2008
## by

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## Background

The aim of this review was to support current research into learner-led approaches in education. The review exemplifies and explores issues in current policy and analysis research into the learner-led use of digital technology and the influence of learner demand.

Key to the review are insights from the technology research literature about how learners' perspectives of and demands about the ways they want to learn have shaped their school experiences. The review therefore sought to identify studies concerning the transformation of learning in primary and secondary schools through the learner-led use of technology for personalising learning. In particular, it focused on identifying research that shows how learners' demands have had an impact on school planning, influenced schools' procurement decisions, or changed teaching and learning methods.

This review supports the Becta-funded research project *Research 25: Personalising Learning – the learner perspective and their influence on demand*. It also aims to build on and extend other related reviews in this field (eg Cox *et al.*, 2003; Perry, 2003; Savill-Smith and Kent, 2003; Passey *et al.*, 2004; Green *et al.*, 2005; Fisher *et al.*, 2006).

## Current context

The Harnessing Technology (DfES, 2005a) strategy set out a vision for the application of technology in education, skills and children's services, with four key objectives. These objectives were to:

- transform teaching and learning and help to improve outcomes for children and young people through shared ideas, more exciting lessons and online help for professionals
- engage hard-to-reach learners with special needs support, more motivating ways of learning, and more choice about how and where to learn
- build an open, accessible system, with more information and services online for parents and carers, children, young people, adult learners and employers, and more cross-organisation collaboration to improve personalised support and choice
- achieve greater efficiency and effectiveness, with online research, access to shared ideas and lessons plans, improved systems and processes in children's services, shared procurement and easier administration.

One of the six priorities in the Harnessing Technology strategy was to develop a collaborative approach to personalised learning activities. The strategy aims to

support other key policy initiatives as an integral part of the overall approach rather than as a separate or additional initiatives in their own right.

The next stage of the strategy is characterised by a shift of emphasis to transformation of learning, teaching, educational processes and systems in order to deliver a more learner-focused system. Alongside this, greater emphasis is being placed on stimulating learner (and parent) demand for change, to realise the benefits of digital technologies. One outcome of the next stage of the strategy that will be monitored is the development of greater choice in learning opportunities and modes of learning for all learners.

The Harnessing Technology strategy is being developed in the context of the Children's Plan (DCSF, 2007), which similarly emphasises offering learners and parents greater choice and flexibility and reducing inequality by:

- ensuring that those who need it most have access to the right technology for learning
- equipping teachers with the confidence and professional tools they need to support better, more effective learning
- making sure there are the right conditions for schools and communities to innovate and improve collaboration and sharing of ideas
- breaking down barriers and helping communication between schools, families, learners and the wider community, including employers
- enabling children and young people to develop the skills they need to use technology well and safely for their future living and learning.

The Children's Plan further acknowledges that children and young people often know more about the latest developments in technology than adults do, implying the need to listen to their views about possible benefits, although adults may need to advise on e-safety strategies because children may not see all the risks.

## Personalising learning

A second key policy influence is the concept of personalised learning (Sebba e*t al*., 2007). There have been a range of interpretations of this concept, with some consensus that it is different from individualised instruction and that is it not child-centred discovery learning. The Personalised Learning website[1] defines a personalised approach to supporting children as:

'... about tailoring education to individual need, interest and aptitude so as to ensure that every pupil achieves and reaches the highest standards possible,

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[1] http://www.standards.dcsf.gov.uk/personalisedlearning/about

notwithstanding their background or circumstances, and right across the spectrum of achievement.'

Personalised learning has been considered from a range of perspectives, for example by the Nuffield review of 14–19 provision (Hayward *et al.*, 2005), the ESRC Teaching and Learning programme (Pollard and James, 2004), an NCSL special supplement (NCSL, 2004), a government White Paper (DfES, 2005b) and a review (Teaching and Learning in 2020 Review Group, 2006). In the review by the Teaching and Learning in 2020 Review Group (2006) 'personalising' learning means, in practical terms, focusing in a more structured way on each child's or student's learning in order to enhance progress, achievement and participation. The review also states that all children and young people have the right to receive support and challenge, tailored to their needs, interests and abilities. This demands an active commitment from pupils, with responsiveness from teachers and engagement from parents.

As a concept, personalised learning was introduced into the policy arena following the publication of a paper from a think tank, Demos, by Leadbeater (2003). Leadbeater (2004, 2005) characterises personalisation in terms of participation in public services. In terms of education, he argues that rather than focusing exclusively on service providers attempting to improve the service, personalised learning offers a real opportunity for learners to participate fully and become co-producers in decisions about the supply and public value of education. Learners would be enabled to devise:

'a greater repertoire of possible scripts for how their education would unfold. At the core there would be a common script – the basic curriculum – but that script could branch out in many different ways, to have many different styles and endings. The foundation would be to encourage children, from an early age and across all backgrounds, to become more involved in making decisions about what they would like to learn and how. The more aware people are of what makes them want to learn, the more effective their learning is likely to be, since… personalised learning allows individual interpretations of the goals and value of education.' (Leadbeater, 2003, pp68–69.)

In this way, personalised learning links very closely with pupil voice research (eg Fielding and Bragg, 2003; Rudduck and Flutter, 2003; Fielding, 2004 a & b), since it is the process of strengthening pupil voice in the school that increases pupils' capacity to participate in decision making, not just about the processes and organisation of schooling, but about each individual's learning.

Hargreaves (2004) also identifies a range of benefits that arise from embedding student (or learner) voice. These include deeper engagement with learning,

improved meta-cognitive skills, better relationships between students and staff and greater responsibility among learners. However, Hargreaves (2004) also suggests that learner voice is the most powerful lever for personalising education.

Ainscow (2006) emphasises the importance of 'meaning making' and active construction of knowledge, which indicates that learning inevitably varies from person to person, with outcomes that are to some extent unpredictable. Personalising of learning can perhaps therefore be seen as involving the tailoring of pedagogy (Becta, 2007; Underwood *et al.*, 2007), curriculum and learning support to meet the needs and aspirations of individual learners *irrespective of ability, culture or social status, in order to nurture the unique talents of every pupil*. However, this ambition may be difficult to achieve given the different social, cultural and intellectual capital of learners.

Campbell *et al.* (2007) identify a number of ambiguities inherent in the concept of personalised learning. The first is that the control of the curriculum (at least up to the age of 14) and the assessment of pupil's work on the curriculum is determined by the state, not by teachers and pupils. This approach is deemed to militate against the notion that education has a unifying function in society, and the capacity to initiate the young into the 'common culture' (Barrow, 1995). Secondly, Campbell *et al.* (2007) argue that earned autonomy, which will have to be demonstrated by learners in the *state-controlled, directly delivered and non-negotiable curriculum*, can only reward self-motivation, and not the self-regulation of students.

There is, therefore, a clear issue that although these policy definitions develop an understanding of the 'personal' in learning, they do not explore implications for learning more broadly. '*The pedagogy of personalising learning is learner-centred. It is an inclusive process which challenges those involved to meet the needs of all learners, particularly those learners who are vulnerable or hard to reach*' (Underwood *et al.,* 2007). The pedagogy therefore seeks to enable more learner-led activity. Personalised learning clearly implies greater learner involvement in how a curriculum is learned, which surely entails a reconsideration of the nature of that curriculum and its assessment, as Campbell *et al.* (2007) point out. The inclusion of the curriculum and its assessment is an explicit part of Becta's conception to *enable learners to co-design, manage and access the curriculum* and to *help learners to become more actively involved in designing and carrying out their own assessments*. This suggests a mapping of learner-led influence through digital technologies on aspects of learning in terms of the curriculum, teaching and learning processes, and assessment (Figure 1).

Finally, it must be acknowledged that although participation is an important element of personalising learning, it is also understood as social participation in learning. Inevitably, involvement in collective activities must recognise some limits in individual

agency and of inherent power relations, which may affect the development of an awareness of one's role within wider social frameworks.
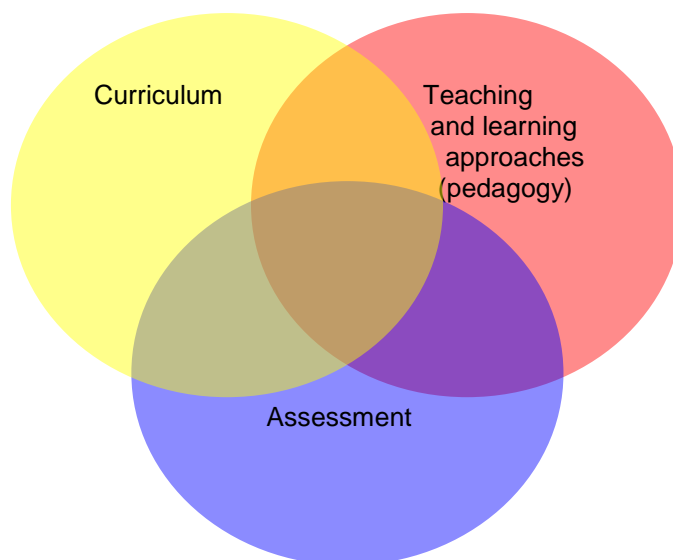


Figure 1: Mapping learner-led demand with ICT

This overview of personalising learning has set out some of the parameters for the review of technology and learner-led demand and perspectives of technology in learning, and revealed some of the tensions. At a basic level, personalising learning entails more responsive teaching to meet pupils' needs, although this might not be made explicit to the learners it seeks to benefit. At the most profound level, personalising learning concerns '*self-organisation by individuals working with the support and advisory systems provided by professionals*' (Leadbeater, 2003); not only the process, content and assessment are negotiable with learners, but the very aims and purposes of the education in which learners are engaged. In the next section, we review the literature about the use of technology in learning, where relevant to these themes.

The purpose of this review is to identify research and evidence in order to develop an understanding of how learners' demands about the ways they want to learn have shaped their school experiences. This includes the role of those who mediate the learning, such as teachers, parents and governors. The search sought to identify research where learner demands have had an impact on school planning, influenced schools' procurement decisions, or changed teaching and learning methods. The aim was therefore to identify information not about the learners' view of the technology, but more about whether and how learners' preferences have influenced the ways technology is used now, and the technology's potential for the future. The nature of the evidence reviewed has led to a focus on the impact of learner demands

on pedagogy, because the search did not identify any studies about learner demand, technology and either school planning or procurement decisions.

## Learner empowerment as a dimension in technology research and practice in education

There tends to be broad optimism that technology can and does support the kind of learning appropriate to the needs of contemporary society. It has long been argued, for example, that the ease of use of the technology frees up time for higher-order learning opportunities (Brown, 1994; Wegerif, 2002), and as a result supports more meaningful learning (Jonassen, 2000) as well as the development of learner autonomy (McLoughlin, 2000; Schnackenberg and Sullivan, 2000).

Some studies suggest that at-risk students are more likely to engage in learning when technology is involved (Duràn, 2002; Passey *et al*., 2004), and technology is seen as promoting more active learning (Meredyth *et al*., 1999; Reiser and Butzin, 2000), enabling new skills rather than just established skills at greater levels of competence (Snyder, 1999).

In addition, technology is reported to have a generally positive effect on learners' motivation. Further, it is argued that when technologies are combined appropriately with other educational innovations, they can increase students' self-regulated learning (Winne and Hadwin, 1998; Steffens, 2006).

Most of this research also reflects an underpinning belief that the value of technology is in enabling pupils to exercise greater control over their learning, in the same way that teachers who favour technology tend to be those who also advocate greater learner empowerment (Higgins and Moseley, 2001). As Scrimshaw (2004) observes, most of the literature about digital technologies advocates a particular pedagogical stance, in that it tends to report '*not the introduction and use of ICT* per se*, but its role as a contributor towards a student-centred form of teaching and learning*' (pp12–13).

Even in situations which can be characterised as learning *from* technology, such as in computer-assisted instruction (CAI), learner control can be seen to be an important part of program design, in terms of learners' perceptions and engagement (Schnackenberg and Sullivan, 2000). Computer-based teaching programs offering learners greater control over their learning environments have been found to have beneficial effects on learners' attitudes to learning.

The wider debate about how best to integrate computers and technology into the curriculum-based culture of schooling and to develop student autonomy or empowerment is, however, a recurring theme in the technology literature (see, for

example, Loveless and Ellis, 2001). For a more detailed discussion of technology and pedagogy in England and Wales, see Cox *et al.* (2003).

Teachers' behaviours were implicitly shaped by the students' responses to the technology-rich environment. Studies suggest that involvement in a technology-rich environment was beneficial to pupils in the longer term (Tierney *et al.*, 2006).

In a longitudinal study in secondary schools in California, researchers investigated the impact of project-based learning using multimedia (Penuel *et al.*, 2001). The project aimed to help teachers develop an inter-disciplinary and project-based model of learning with multimedia technologies that would provide students with opportunities to acquire curriculum knowledge, as well as improve composition and presentation skills, in particular. The projects were designed around real-world problems, and the students used a range of technologies, including video, digital editing, and web-authoring programs.

Analysis of the teachers' diaries, and classroom observations, indicate that project teachers were less likely to use a whole-class or lecturing style of teaching, but instead took on the role of facilitator or coach. In project classrooms, students spent more of their time in active, student-led, small-group collaborative activities or small-group discussions. The observational study also found that students in multimedia project classrooms spent more time than students in comparison classrooms engaged in cognitive activities such as analysing and interpreting information, creating models or representations of information, deciding on the structure of a presentation aimed at an external audience, and reviewing and revising their work (Penuel *et al.*, 2001).

The researchers concluded that the project classrooms were more learner-centred, with some evidence of pupils taking greater initiative in their learning, which was then supported by the teachers and the activities that they subsequently planned.

One of the aims of the research in each case was to develop a more. Technology can have a role to play in the development of leaner centred pedagogy, when teachers respond to pupils' enthusiasm about aspects of their learning (such as more complex thinking), and this starts to shape their subsequent planning and teaching. The development usually remains implicit, however, and is shaped and controlled by the teacher. It is uncommon to find the influence of technology being explicitly shaped by learners' demands, other than in the choice of particular activities within the curriculum framework or the way that these are learned (the particular approaches to specific tasks and activities).

Overall, the wider findings indicate that the integration of technology into school classrooms is not straightforward and that there are significant issues in terms of the existing pedagogy and curriculum into which the technology is introduced, as well as

the influence of teachers' beliefs on the adoption of new pedagogical practices (Higgins and Moseley, 2001). Campbell *et al.* (2007) highlighted that the development of more learner-led activities in schools, driven by teachers' enthusiasm for learners' engagement, was limited by national educational developments such as the introduction of the National curriculum. Further, the assessment regime (Ecclestone and Pryor, 2003) also influences teachers' behaviours (Stecher and Barron, 2001; Vogler, 2002).

In general, while there is no evidence that learners performed less well than control or comparison groups using digital technologies, there is also no clear evidence that performance was superior in terms of children's learning measured by traditional tests, or that these kinds of interventions have anything other than average effects (Higgins, 2003). It can, of course, be argued that, if such environments tend to be as successful as more traditional teaching approaches, and that the students are developing both social and technical skills as well as covering the traditional curriculum, then they offer broader educational benefit. However, what is not made explicit in such studies is that the researchers are also usually advocating a more learner-centred pedagogy as part of their underpinning educational values and research goals.

An historical perspective on the development of the use of technology in schools indicates that there are examples of where learner demand has shaped aspects of innovative learning environments supported by technology, but that this has usually been in topics or areas within an existing curriculum framework. In such contexts, the curriculum was sufficiently loosely framed to allow some flexibility of coverage.

However, typically the control remained firmly in the hands of the teachers, who can perhaps be seen as ceding aspects of the curriculum, and some of the management of the learning activities, to the pupils. Even in virtual schools, the content of the courses remained almost identical to that of courses taught in traditional schools.

## Recent developments

Although there are a number of reports published on the internet either mentioning or focusing on more learner-led use of technology in schools, there is little published research evidence in journals about the impact of such approaches on aspects of teaching and learning in the UK. Most of the research describes small-scale case studies and tends to report on the perspectives of those involved, usually the views of teachers or researchers, without evidence about how learner-led change has had an effect on learners' behaviours, learning and teaching interactions, or the outcomes for learners.

Direct investigations of pupils' opinions about learner-led pedagogies are also scarce in the published literature, and there is little known about how learners, particularly

young children, think about their own learning (Larkin, 2006), especially in relation to technological innovation in learning environments (McLoughlin, 2000; Wall *et al.*, 2005). Studies of learners' views are more common in higher education, for example in relation to the use of e-learning (Sharpe and Benfield, 2005), interactive voting systems (Barnett, 2006; Graham *et al.* 2007) or mobile technologies (Jones *et al.*, 2007), where learners' views are seen to influence and shape practice more explicitly.

Learners' perspectives are more likely to be reported as shaping teachers' behaviours or planning in small-scale enquiry projects, such as those characterised by action research. For example, in a New Zealand study, Trapp (2006) used the questions posed by five- and six-year-olds and then asking these questions of their teacher in return, to explore ways of developing an inquiring attitude and 'confident individuality' in her pupils. She then researched the relationship between such questioning and learner autonomy, and how technology might be used to foster that relationship. Fifteen Year-3 and Year-4 pupils took part in the eight-week research while producing a project for their school science fair. Using observation and pupil self-assessment sheets, a set of indicators for autonomous learning were established as goals for the class. These led the pupils to reflect on their own learning and behaviour. The teacher supported this reflection with questioning and discussion. Pupils were also given access to a range of technology, including digital video, voice recording, computers and a data projector. Many of the children chose to use the technology in ways that were new to them, demonstrating a range of behaviours characteristic of autonomous learning. The teacher's questioning helped develop student autonomy by stimulating reflection and providing opportunities for decision making.

A number of recent reports (Perry, 2003; Savill-Smith and Kent, 2003; Green *et al.*, 2005) have included observations about the influence of learners on aspects of learning and technology. One example of this is in the area of creativity (Fisher *et al.*, 2006; Loveless, 2007). This field implicitly assumes a level of learner control and many of the vignettes of creative activities with technology included in these studies overlap significantly with the themes in this review. Examples are in the areas of physical and virtual learning environments, developing ideas, making connections, creating and making, collaboration and communication, and evaluation. Similarly the review by Sefton-Green (2004) of informal learning indicates the complexity of children and young people's learning with technology.

Mobile learning, in particular, appears to have significant potential for the development of learner-led change (Savill-Smith and Kent, 2003; Naismith *et al.*, 2004; Pachler, 2007) although, as noted above, studies evaluating the outcomes of these changes are lacking. The potential appears to be related to learners' sense of ownership of the technology and the skills and confidence that results from this (Perry, 2003). However, the recent study by Dunleavy *et al.* (2007) of one-to-one

laptop provision cautions against assuming a simple relationship between technology ownership by pupils and improved learning.

## Final comments

The research and evidence identified for this review did not contain information about learner-led changes in procurement and school planning.

In terms of teaching and learning, learner-centred and learner-led learning have been at the heart of many of the developments involving technology, particularly in schools.

The influence of learner demand has been more evident with older learners, particularly in higher education.

Most of the examples of leaner-led change have, however, taken place at an implicit level where teachers have retained control over the content and pedagogy of learning. Learner-led change has usually required the teacher to respond to pupils' preferences for how they want to use technology, so devolving control over *how* pupils learn.

When a curriculum is relatively loosely framed, such as in problem-based approaches, there may also be opportunities for learners to influence the content of *what* is learned.

There is little evidence that learner-led demand and the use of technology have had an influence on assessment practices in schools, although some schools have reported that they changed assessment practices by using technology to respond to developing personalised learning (Sebba *et al.,* 2007).

A useful distinction may therefore be to consider the role of learner demand *within* the curriculum, pedagogy and assessment, and learner demand about these areas. The implications of personalised learning outlined in the introduction suggest that it is only when learner demand is *about* these aspects of teaching and learning that it will be 'personalised' in terms of Becta's aspiration for learners to co-design and manage the curriculum and to *become more actively involved in designing and carrying out their own assessments*.

Additionally, where changes have been made, it has been due to implicit, rather than explicit, demands from learners within an existing curriculum and assessment framework. Changes in teaching and learning, even involving technology, rarely seem to happen as a result of learners' views.

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