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Flexibility in Higher Education: Revisiting Expectations
Flexibilidad en Educación Superior: revisando expectativas

We have studied the construct of flexibility in higher education for many years, as researchers and practitioners. In this context we define flexibility as offering the student choices in how, what, where, when and with whom he or she participates in learning-related activities while enrolled in a higher education institution. In a textbook we wrote on the topic in 2001 we identified possible options available to students in higher education to increase the flexibility of their participation. We studied these from the perspective not only of the student but also in terms of their implications for instructors and for higher-education institutions, and examined the key roles that pedagogical change and technology play in increasing flexibility. Now, 10 years later, we revisit key issues relating to flexibility in higher education, identify in broad terms the extent to which increased flexibility has become established, is still developing, or has developed in ways we did not anticipate directly a decade earlier. We will also review our scenarios for change in higher education related to flexibility and contrast these with a recent set from the UK. Our major conclusion is that flexibility is still as pertinent a theme for higher education in 2011 as it was in 2001.

La construcción de la flexibilidad en educación superior se estudia desde hace bastantes años, desde la investigación y desde la práctica. Definimos flexibilidad como la posibilidad que los estudiantes tienen de elegir cómo, qué, dónde, cuándo y con quién participan en las actividades de enseñanza-aprendizaje mientras están en una institución de educación superior. En el libro que escribimos sobre esta temática en 2001 identificamos opciones posibles para los estudiantes en educación superior con la finalidad de incrementar su flexibilidad y su participación. Lo estudiamos no sólo desde la perspectiva del estudiante sino también desde las implicaciones para los profesores y para las instituciones de educación superior, y examinamos el papel clave que juega el cambio pedagógico y el tecnológico en el aumento de la flexibilidad. Ahora, diez años después, revisamos los temas clave relacionados con la flexibilidad en educación superior e identificamos, en términos generales, si los sistemas que establecimos para el incremento de la flexibilidad son todavía válidos o han evolucionado en alguna forma que no pudimos prever hace diez años. Revisamos también nuestros escenarios para el cambio en educación superior relacionados con la flexibilidad y los contrastamos con situaciones más recientes que suceden en el Reino Unido. Nuestra conclusión más importante es que la flexibilidad es todavía un tema relevante en educación superior en el 2011 como lo era en el 2001.

Flexibility, higher education, technology, change, pedagogy, implementation, scenarios.
Flexibilidad, educación superior, tecnología, cambio, pedagogía, implementación, escenarios.

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1. Introduction

For many reasons –political, social, philosophical, economic as well as educational– there has long been an interest in increasing the flexibility of participation in higher education. Rapid developments in computer and network technology, particularly the escalation in Internet use during the latter decades of the 20th century and the emergence of the World Wide Web in the mid-1990s not only intensified the motivation of institutions and governments to offer more flexible forms of participation in higher education but also led to a surge in experimentation with new pedagogical methods and new forms of digital learning resources and interactions. In this context we wrote a book about flexible learning in higher education which was published in 2001 (Collis & Moonen, 2001). The purpose of this reflection in 2010 is to revisit the concept of flexible learning in higher education a decade after our book was published, and consider the extent to which our conceptualizations and expectations have been realized or need to be re-examined. The questions we will address are:

- Conceptual: Has the concept of flexibility in higher education evolved since 2000 and if so in what ways? Is increased flexibility still a major characteristic of change in higher education? What are the key scenarios in describing a university's position with respect to flexibility?

- Realization-oriented: To what extent have our expectations about flexibility been realized? In what ways would we alter our expectations in the 2010 context? What factors constrain the possibilities for flexibility in higher education?

2. Flexible learning in higher education revisited

In the 2001 book we conceptualized flexible learning in terms of four key perspectives: institutional, implementation, pedagogy, and technology as well as combinations of these perspectives. In this section we will compare the emphasis on flexibility in 2001 and 2010 in terms of these perspectives and their 2010 updates. We will also contrast scenarios for universities in terms of flexibilization in our 2001 book with other scenario suggestions that have occurred in the past 10 years.

2.1. Flexibility from the institutional perspective

During 1999 and 2000 decisions makers in universities were confronted with a wave of threats to their core businesses and identities. Newspapers and magazines routinely were making comments such as: «Traditional universities and colleges face a bleak future unless they significantly alter their instructional methods to keep pace with development spurred by the Internet» (Financial Times, 2000), and «Undergraduates are as interested in a college's Net resources as its curriculum (Bernstein, 2000: 114). The demographics of the student body were expected to alter dramatically, away from the traditional undergraduate entering university directly after secondary school toward uncharted numbers of post entry-level learners, such as those whose work situations require them to update themselves or prepare themselves for new careers. The possibility for learners, via technology, to participate in units or programmes from higher-education institutions where they would have little or no physical presence was seen as a threat to traditional enrolment patterns. Increased flexibility was seen as a key to the operations if not survival of higher-education institutions and flexibility required technology investments. The term «virtual university» began to be used in the mid 1990s to describe an institution where some amount of its services and interactions took place on-line, via network technologies and associated software applications (for a review, see Schreurs, 2009). Our main conclusion in 2001 based on interviews with decision makers in a number of European but also North American, Australian, and Asian universities was «You can't not do it»: Institutions had to make heavy investments in technology and explore strategies for change in their methods of operations in order to increase flexibility of participation.

In 2010 institutions have made substantial investments in network technology (see Section 2.2). However the extent to which they have become virtual universities with a new demographic of student is not clear although certainly there is much on-line activity. In an analysis of virtual universities worldwide carried out by the Re.ViCa Project supported by the European Union (Schreurs, 2009: 15-16) a conclusion is that «the virtual campus concept has changed since it first came into use, because now more and more universities see the possibilities inherent in offering courses off campus. We see an increasing number of universities offering courses themselves on a virtual campus basis... While there are some institutions adopting fully on-line courses, it is now most common for courses to be blended. In the last few years there has been an apparent decline in usage of the term 'virtual campus', but a continuing growth in the phenomenon... Every campus becomes a virtual campus. (However) 'blended models' gain more and more interest and attention».

This is reflected in a survey in the USA of more than 2,500 higher-education institutions (Allen & Seaman, 2007). In this survey an on-line course was defined as one in which at least 80% of course content is delivered on-line, thus including blended variations. With this definition more than 3.4 million students, nearly 20% of all higher-education students, were taking at least one on-line course during the 2006 academic year, an increase of approximately 10% over the previous academic year. This 9.7 % growth rate for on-line

enrolments is much more than the 1.5% growth rate of the overall student population (Allen & Seaman, 2007).

However, despite the availability of some courses or programmes in on-line (blended) form, a conclusion of a UK review (Jameson, 2002: 32) gives a more nuanced view of overall change in higher education: It is not uncommon for institutions to make a commitment to new technologies in their strategy documents but in reality they are watching the field and hope they are ready to 'switch on' quickly if and when necessary. In a very person-to-person oriented learning system (e.g. Oxford/Cambridge) technology has a limited impact on teaching and learning, but it does make resources available.

Thus the move many predicted for higher-education institutions in terms of increasing flexibility by offering (some) courses or programmes on-line has been modestly accomplished but the fact that many of these courses are in fact blended with some element of physical presence required means that the degree of flexibility of location offered by traditional higher-education institutions is still constrained. This relates to an institutional trend related to flexibility that we did not anticipate in 2001 but which has emerged strongly during the last decade: a growing interest and level of expenditure on on-campus physical learning spaces. In the UK and also Australia there has been a substantial redesign of physical learning spaces at many universities. In a summary (2006) by HEFCE, the Higher Education Funding Council for England, the point is made that «Increasing investment in estate and learning technologies, combined with the need for more cost-effective space utilisation, is making it increasingly important for senior managers and decision-makers to keep abreast of new thinking about the design of technology-rich (physical) learning spaces» (p. 2)

Physical buildings need to be designed so that their individual spaces are flexible — to accommodate both current and evolving pedagogies and changing needs (HEFCE, 3). Technologies that are as far as possible mobile and wireless will make spaces more easily re-purposed (p. 5). In addition to the practical value of flexible physical learning spaces supported by technology individual universities report positive results of redesigned physical learning space relating to learning. At the University of Brighton «the strongest finding to emerge so far has been an almost unanimous agreement from facilitators and learners alike that the flexibility of the space has had a very positive effect on the learning process» (Martin, 2008). At Canterbury Christ Church University also in the UK extensive research has taken place as to what learners do and where they go (their «learning footprints» (Collis, 2010) in a new technology-rich physical learning centre where learning flexibility is enhanced by the fact that «learners can borrow notebook computers with full Wifi network connectivity as easily as picking a book from a shelf» (Steadman, 2010: 2) and thus move about the facility as they wish while maintaining on-line network contact. The initiative, the first in higher education successfully to introduce on a large scale, self-service thin client notebooks on loan for student use, also involved location-tracking software within the notebooks, providing on-going data on the numbers, time and duration of use, and location of the notebooks. The tracking data coupled with other data sources such as interviews, surveys, and observations, gave empirical evidence of different learning interactions than took place in the previous physical learning centres of the university library and classrooms (Collis, 2010; Steadman, 2010). Parallel to this in the USA, there is the acknowledgement that «campuses should develop an interrelated strategy that takes into account a range of types of learning spaces, including virtual spaces, and a range of support services (Brown & Lippincott, 2003: 16).

Thus rather than moving toward the 2001 conception of increasingly virtual universities it is our observation that provision for technology-rich flexible physical learning spaces has become a major focus for many university decision makers. Some learning may be taking place partially or fully on-line but enhancing the flexibility, and attractiveness, of on-campus learning spaces is a larger focus, at least in countries including the UK, Australia, and the USA.

2.2. Flexibility from the technological perspective

In our 2001 analysis we indicated a variety of ways that technology could enhance the flexibility of learning in higher education, ways related to the logistics of engagement in a higher-education institution (including accessing course materials and organisational information on-line, submitting assignments and getting feedback on-line) and also ways related to new forms of learning. We saw the emergence of course-management systems (called by different names in different contexts, including virtual campus environments, VLEs (virtual learning environments) or ELO (electronic learning environments) as offering many possibilities to increase flexibility. In later research (De Boer, 2004) we noted that the logistic aspects of flexibility were being enhanced, but not the pedagogic aspects.

In 2010 this has remained the case: Web-based course-management systems (VLEs) are now common in the majority of universities, but tend to be used primarily for logistic flexibility. In terms of the technology systems with which students interact universities are gradually moving away from the current generation of proprietary course-management systems toward open source systems or even more-personalisable digital desktop environments, making use of portals, customisable interfaces, and user-selected combinations of tools and applications (generally related to the so-called Web 2.0; Hermans & Verjans, 2008). Such combinations

include possibilities for individual or collaborative creation and sharing of content (via Weblogs, bookmarks, photos, or other resources); for the support of social networks both within the learning context and outside; for presence-related services that take into account where the users are and who they will allow into their virtual space; and aggregators and mash-up tools to help users know about new sources of input and to organise these for personal needs. Although prototypes of this sort of Personal Learning Environment (PLE) are beginning to emerge in technology-related research projects in higher education, user-adaptable functionality is already common in the personal digital environments of many higher-education students (Atwell, 2007). Students indicate that «technologies used in their (university) courses are much less adequate than their personal technologies (Heo, 2009: 295).

The Web 2.0 applications that have emerged in the last several years were beyond what we discussed in our 2001 book. The use of Wikis (see for example Anzai's account of Wiki use in Japanese higher education, 2009) and of social networks (Anderson, 2009) are examples of what in the US has been predicted as key emerging technologies for learning in higher education (New Media Consortium, 2008). This Consortium, which every year produces a report on key emerging technologies for higher education, indicates «collective intelligence» and «social operating systems» as follow ups to the now already present «collaboration webs» could have a major impact on learning in higher education by somewhere around 2013.

But will they? In our 2001 book we noted that the potential of technology to enhance the learning experience in higher education depends on whether it is being used as a core or a complementary technology. A core technology involves the major artefacts around which a course is designed. These are institutionally embedded. In much of higher education the core technologies remain as they have been prior to 2001: lectures, classrooms, written examinations in physical, monitored situations, and textbooks. An addition has become the course-management system, used to provide resources and information and manage some forms of interaction (typically submission of assignments and provision of feedback and marks). Other sorts of technologies, such as the Web 2.0 applications, are what we call complementary technologies: some instructors choose to use them as supplements or enrichments but they are not mainstreamed nor are they essential to overall academic progress for the student. Collectively we still are far from the «learning web» view of technology use in higher education, where «the role of information technology is modelled as one of providing knowledge support systems that expedite the processes of knowledge formation and dissemination» (Gaines, Norrie & Shaw, 1996) or what we called «technology as a learning workbench» (Collis & Moonen, 2005).

2.3. Flexibility from the teaching and learning perspective

Teaching and learning involves instructors, learners, and the pedagogy of instruction, particularly learning activities. The perspective also includes those who support instructors and learners in higher education institutions.

2.3.1. Pedagogy and learning activities

In our 2001 book we elaborated a pedagogical model for course and learning-activity design based on two key principles: learning situations should be designed for flexibility and thus options for the student, and learning situations should involve not only acquisition of skills and concepts but also opportunities to participate in and contribute to a learning community. This «contributing-student» pedagogical approach fits well with the affordances of Web 2.0 technology which have emerged since 2001 and is indirectly reflected in many of the studies and projects involving Web 2.0 technologies and new forms of learning activities that have emerged in the literature in the last decade. Hall and Conboy (2009: 232) for example describe exploratory projects involving blogging as a reflective learning activity, student development of course Wikis as social knowledge-building, and the use of a social network that learners could customise and use for the management of their group learning activities. Their conclusion is that «the learner can be empowered to make effective decisions about their learning where read/write Web tools are used to catalyse pedagogic innovation». At the Nanyang Technological University in Singapore a pedagogical and organisational model called University 2.0 has been implemented with an emphasis on learner engagement (»teach less, learn more», Tan, Lee, Chan & Lu, 2009) and on empowering students to take charge in shaping their own learning experiences. Learning activities such as self/peer evaluation, project work management, student construction of questions for peer learning, and on-line portfolio creation are examples of the emphasis on student engagement. Even during self study, learners are encouraged to link up with other classmates for learning support using a locally made application (aNTUna Connect) for the support of virtual learning communities. In addition, and still unusual in higher-practice, «students are involved and also consulted in a decision-making process about learning focus and assessment outcomes» (p. 517). From a conceptual perspective Conole, Dyke, Oliver & Seale (2004) show how different learning activities (brainstorming, gathering resources for a particular task, and self assessment of level of competence) can be made flexible by offering students options

relating to individual or social participation, as well as reflective or skill-oriented orientations, and information-based versus experience-based emphases.

Thus supported by Web 2.0-type technologic developments the potential for pedagogic flexibility is even stronger in higher education than it was in 2001. However, in our more-recent analyses (Collis & Moonen, 2008) we have identified many barriers to the realisation of this potential. A major set of barriers relates to the willingness of instructors in higher education to change their teaching practices.

2.3.2. Instructors and support staff

There is no widespread evidence that mainstream higher-education instructors are any more likely to be incorporating innovative pedagogies in their course designs in 2010 than was the case in 2001. As before, the instructor is the key figure in pedagogic change. And as before instructors lack sufficient time, motivation, and support to move beyond their level of tolerance for innovation and use of technologies in learning. As noted by Collis and Messing in 2001 instructors make personal decisions about how much time and effort they can make available for important elements of interaction-oriented pedagogies such as feedback and individualisation and thus set their own limits for time commitment. In 2005 Gervedink Nijhuis analysed the many time- and labour-intensive implications for instructors of offering more flexibility to students in learning activities and concluded that the time burden for instructors of managing flexibility in learning activities is too much for many instructors in balance with the many other burdens on their time and effort. Simons (2002) feels part of the problem is that instructors lack insight into «digital didactics» and thus are reluctant about or resistant to pedagogical change through lack of understanding as to what it can offer or how to proceed with its implementation.

As has been the case with previous generations of technologies and their potential for learning the need for more effective and efficient professional development of instructors is still acknowledged and the importance of support staff for teaching and learning remains high. Support staff include persons in university teaching- and learning centres who focus on curriculum- and pedagogical innovations in teaching, technical staff who support instructors and students in their uses of technology, and also other staff such as librarians who may be involved in supporting instructors, for example with issues relating to digital information access and management relevant to their teaching activities. On-demand support for instructors, thus highly flexible and contextualised, was one of the major components of improved learning and cost reduction in a series of case studies in course redesign in the USA (Twigg, 2004). Simons (2002) calls for new methods of professional development and guidance for instructors and thus in turn new methods and skills for support staff. A new method of staff development, based on flexibility and contextualisation, that has shown good promise is that of Canterbury Christ Church University in the UK (Westerman & Barry, 2009). Instructors can choose which of more than 20 types of technologies they wish to become familiar with and for each of the types different sorts of self-study learning methods were developed. While each instructor had a personalised approach emphasising gaining technical literacy before attempting pedagogic changes, social interaction among the instructors and the support staff was also an important form of learning and attitude change.

Despite their importance support services are particularly vulnerable to internal reorganisations and budget cuts when universities face economic challenges. Jameson (2002: 33) notes that «In the UK a number of universities have felt the need to re-organise their teaching and learning support services. In some cases these services have been broken up and removed to other parts of the administration, e.g. placed in the «Estates» division. This is a dangerous move as these support services have a special role in teaching and learning and they will find themselves in competition for resources with services supplying general institutional requirements».

Unfortunately this is happening in many universities and constitutes a serious constraint to enhanced pedagogic flexibility.

2.3.3. Learners

In our 2001 book we did not have a specific chapter relating to the learner's perspective on flexibility. This was because we considered the entire analysis to be grounded on the learner and the desirability of making more options available for him or her in terms of participation in learning-related activities. In the subsequent decade however a new cycle of interest in learner experiences as a key component of transformation of institutional practices has evolved. Sharpe (2009) indicates that there is a shift occurring to research on the learner experience that is «more holistic, including that which examines the impact on the pervasive use of technology in learners' lives...with attempts to conceptualise the observed variation in learners' experience» (p. 178). Learner-experience research now goes beyond institutional technology provision but also considers the influence of the rise of personal ownership of technology and use of on-line tools and applications. For example at the University of Bradford in the UK the awareness of students' substantial use of on-line social networks has led to new and highly flexible approaches to on-line support to help learners during their period of transition into higher education (see the tool at www.brad.ac.uk/developme). At Oxford Brookes

University a personalised learner-centric model of technology-enriched education based on the belief that students should be skilled at handling information, managing human interactions, and knowledge building using digital tools is being developed and personalised also per academic study programme (Benfield, Ramanau, & Sharpe, 2009). Because students are competent technology users does not necessarily mean they are critical users, with information-literacy levels necessary for the learning goals of higher education. Comrie, Smyth and Mayes (2009: 210) note that at the three Scottish universities involved in the TICEP project (Transforming and Enhancing the Student Experience through Pedagogy, see www2.napier.ac.uk/transform) priority is given to scaffolding learners' «self-regulation and what is being increasingly referred to as learning (or academic) literacy...with institutions...focusing their resources on preparing their learners rather than on their 'provision'». These and other learner-experience studies suggest that the learner's personal experiences with technology and more importantly his or her critical maturity with dealing with information and diverse human opinions are important components of his or her response to increased flexibility relating to learning in higher education. This leads to the conclusion that preparing students to respond effectively to flexibility is as important as flexibility provision itself.

Thus, in summary, there is mixed progress in terms of increasing flexibility in learning and teaching in the decade since our 2001 analysis. Personal and socially oriented technologies have become common in the personal worlds of many students in higher education and there is experimentation with pedagogies that build on sharing, collaborating, and contributing to the learning of one's peers. But beyond exploratory projects there does not appear to be widespread changes in pedagogical methods. The reasons remain those which have been the case whenever innovation in teaching practices are being considered: instructors do not have time, skills, or incentives to make substantial changes in their familiar approaches to instruction. In parallel to this support staff who could stimulate such innovation are under resource constraints themselves.

2.4. Scenarios for universities

In 2001 we identified four scenarios for higher education and flexible learning for «2005 and beyond». These scenarios emerged from the combination of two key dimensions, one relating to the location of learning provision (with two extremes, where local and face-to-face transactions are highly valued and the other where network-mediated transactions are the heart of the learning setting) and a second related to quality control (with two extremes, one where the expert at the university is responsible for the quality control of the learner's experience and the other where the learner himself becomes increasingly responsible for the quality of his own learning decisions). These gave rise to four scenarios:
- Back to the Basics: Where local and face-to-face transactions are highly valued and the institution determines its curricula and programmes and ensures their quality
- The Global Campus: Where the university maintains quality control but programmes and learning are increasing available via network technology, not a physical campus
- Stretching the Mould: Where the learner still focuses on the local campus and face-to-face transactions but gradually makes more personal choices and thus assumes more responsibility for the quality of his or her experience
- The New Economy: Where individuals pick and choose their own learning combinations, via global and network-mediated transactions, from a number of sources of learning resources

As we predicted in 2001, the New Economy option has not moved beyond the informal-learning setting. Traditional universities are still primarily positioned in the Back to the Basics scenario but with institution-supported options for some courses in a Global Campus setting, and with a gradual increased presence in a Stretching-the-Mould scenario. What is interesting is that the latter is occurring generally outside a specific institutional strategy; the Stretch occurs in an organic way as more options for flexible participation are available for learners.

In the ensuing decade other scenarios have been suggested. A particularly interesting set of scenarios emerged from a 2008 study under assignment from Universities UK, a membership association of the executive heads of all the UK university institutions and some colleges of higher education (www.universitiesuk.ac.uk/-AboutUs/WhoWeAre/Pages/default.aspx). The study focused on the size and shape of the higher-education sector in the UK in 20 years' time (Brown & al, 2008). Based on an analysis of key uncertainties and drivers of demand and the recognition that funding cuts are likely to be the context for any future scenario three scenarios were developed:
- Slow adaptation to change: Few significant new sources of student demand are expected, only modest investments in e-learning will be made so that it remains a relatively small part of the total learning experience for most students. Some institutions will merge or close due to decreasing funding.
- Market driven and competitive: Increased competition in all student markets between and among traditional higher-education institutions and new providers, more widespread investment in e-learning particularly by larger institutions in partnership with the private sector, and a major reconfiguration of the sector with fewer large multi-mission institutions and a larger number of small, specialist higher-education institutions.

- Employer-driven flexible learning: Employer demand for accreditation of work-related experiences and co-funding of programmes by groups of employers and their supply chains, most students study part-time on a virtual basis while they continue to work, leading to a highly stratified higher-education sector with a small number of elite institutions, some major regional centres, some predominantly virtual institutions, some traditional local universities for undergraduates, and some institutions offering programmes franchised from regional centres (summarised from Brown & al, 2008: 5-13)

In the second and third scenarios flexibility mediated by technology will play a major role. It is interesting that this UK scenario exercise did not seem to explicitly refer to the experience of the Open University of the UK. It, like other large-scale distance-education institutions (including the Open University of The Netherlands and the Open University of Catalonia) have long been offering flexible forms of course participation, particularly to non-entry level learners, with large numbers of students selecting this model of higher education. However, given the changing landscape of the higher-education sector as envisaged by the Universities UK study perhaps the mega distance-education providers will be challenged to offer their students options with regard to blends of face-to-face and on-line learning rather than only a distance model in order to compete with the sorts of new situations suggested in the second and third scenarios of the UK future analysis.

3. Conclusion

We believe that flexibility is still as pertinent a theme for higher education in 2010 as it was in 2001. We affirm our position from 2001 that flexibility relates to making choices available to the learners, choices that they need to be able to make use of and use wisely. We see a change in the momentum for flexibility in traditional universities in 2010 compared to 2001: less emphasis on «global campus» opportunities for participation (beyond those already established) and more attention to enhancing the flexibility of learning spaces, as a blend of on-campus and technological spaces and the support that students can call on as they make use of the flexible spaces. The motivation for this attention is partially as incentive for new and continuing students, partially for the new learning opportunities that can be realised, but also for economic reasons—to make more flexible (i.e., cost-effective) use of physical facilities. Advances in technology since 2001, particularly Web 2.0 tools and applications, mobile technologies, Wifi networks, different forms of group and individual work-support systems and personalisable digital environments to simultaneously support learning, work, and private activities, have changed the landscape of how learners (and instructors) communicate and share outside of formal educational situations. The extent to which these new flexibilities will be translated for use in formal settings for learning is still to be seen. The risk is always there that a «lowest common denominator» of usage will settle in for these new technologies during the next decade as it did for Web-based course-management systems over the last decade. For flexibility to move beyond logistic- and personal-usage options to more-fundamental aspects of higher-education participation and pedagogic change will continue to require strategic incentives and appropriate support. In a time of financial constraint, the resources needed for appropriate support will be increasingly hard to allocate.

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