

## PAPER 1

# Flexibility and access: implications of blended learning for higher education

Author Joseph Mintz

Address for correspondence Education Department  
London South Bank University  
Rotary Street  
London SE1 0AA  
0207 8155711  
mintzjh@lsbu.ac.uk

---

## Abstract

*Many institutions are developing policies aimed at widening participation and encouraging students from non-traditional backgrounds to engage in Higher Education. A number of studies have noted the potential benefits possible in this context through the use of online learning as part of overall blended approaches, to offer students flexibility in when and where they engage with study materials. Little research, however, has been undertaken in to whether students with significant levels of home commitment find such flexibility of particular use. This paper reports on a small scale exploratory study involving a group of postgraduate students which investigated how the student's perception of the benefits of flexibility offered by online learning related to their level of home commitment. Analysis of the data gives some initial support to the idea that students with a greater level of home commitments are more likely to view flexibility of access as being of benefit. Consideration is given to the implications of the results for balancing face to face and online component in blended approaches and proposals are made for possible more in depth studies that could provide useful information for those involved in course design in the Higher Education context.*

## Introduction and literature review

Blended learning approaches have held out much promise in improving the process of learning and teaching with higher education students. Hofmann (2006) reflects on the fact that the reality of blended learning for higher education institutions has very often not matched initial expectations. Possible reasons for these failures have been considered by a number of authors (for example O'Leary and Cai (2004) and Zemsky and Massy (2004)). One key factor contributing to failure that has been identified by some authors, for example Stephenson (2001) and Huang and Zhou (2006), is the mismatch between the introduction of technology and the development of a clear rationale as to how that technology will be incorporated in to the process of teaching and learning. Certainly, the use of innovative technology in educational institutions has often fallen foul of the temptation to see such "new toys" as perhaps an end in themselves. Yet technology can bring advantages to education, especially for specific groups of students who find that the traditional modes of study associated with higher education do not fit with their lifestyles and other life commitments. Previous studies (such as Swan 2001) have indicated that for undergraduate students who have followed a traditional entry route to higher education, the social engagement gained in face to face sessions is a key aspect of their motivation for learning, and thus these students can show negative attitudes to online learning due to the limited human interaction involved. Yet for other groups the fixed structure of lecture timetables can be a barrier to effective participation. Such students include particularly mature

students over 21 years of age with significant commitments apart from those related to their course. These commitments would typically include caring for children and caring for elderly parents and other relatives. Increased flexibility in course provision via the use of online learning, whereby students can choose when and indeed where they engage with study materials, has been identified as one of the potential significant benefits to be derived from the introduction of blended approaches (see Sharpe, Benfield, Roberts and Francis (2006) and Osguthorpe and Graham (2003)).

In a sense, these two extremes have served in recent years as the key driver in the move towards blended learning courses, where a compromise position between online and face to face components serves the needs of the greatest possible number of students. Yet a review of the literature indicates that there has, however, been relatively little research on how students with varying levels of home commitments perceive such flexibility in the context of blended courses. Some studies (Crane 2006, Harden and Hart 2002), have reported on the experience of mature students undertaking access to Higher Education courses involving the use of online learning, but these have been descriptive or aspirational studies that assumed that mature students will tend to find the flexibility of online learning to be of benefit. Kirkwood and Price (2005) report on a very large scale postal based survey of UK Open University distance learning students and their experience of using various forms of ICT, including online learning. Again, although they make some general reference to the varied composition of the student body, there is no analysis of the attitude of specific groups towards the benefits of online learning.

In this paper I report and reflect on the experience of the exploratory introduction of online learning materials in to a previously wholly face to face based course of initial teacher training. The materials introduced allowed certain aspects of the course which previously would have involved face to face attendance to be completed via online activities, and the data presented later in this paper provide some indication of the perceived benefits of the flexibility offered by the use of online learning to different groups of students.

## Context

The course in question is a Postgraduate Certificate in Education (PGCE) for Primary school teachers taught at a central London university – a one year postgraduate initial teacher training qualification leading to qualified teacher status in the UK. The University is located in the inner city, and both the institution and the Department have a commitment to increasing access to their courses. The course runs over approximately 10 months and includes a significant component (18 weeks) of school based placement. All the students on the course are over 21, and the average age is 28 is many students have been in the workplace already for several years or are embarking upon a change of career later in life. There are a significant majority of women students (84%) on the course, in common with most courses of initial teacher training in the developed world. Thus the age and gender structure of this cohort suggest that a reasonable proportion of the course participants are likely to have significant home commitments and thus potentially be in a position to benefit from the flexibility offered by online learning. In addition, an ICT skills test audit taken by this cohort of students at the start of the course indicated that over 95% had regular access to a computer connected to the internet at home, and that over 96% of students were confident in basic ICT skills including file management, navigation of the world wide web, use of e-mail and use of word processing software. Thus again it seems reasonable to conclude that this group of students have the skills and technical infrastructure to be able to easily engage with the online materials at home as well as on campus.

Although the course had, in the three years before the project described here, had a bespoke Virtual Learning Environment (VLE), this has been used solely for the posting of announcements and for repository of lecture notes and course documents. In common with many HE courses (Sharpe, Benfield, Roberts and Francis (2006)), no use had been made

of the VLE for actual *delivery* of course content. In 2006 a set of online course materials were developed for one specific element of the course, the Unit on Professional Studies. This unit covers aspects of teaching not covered in other more subject knowledge based aspects of the course, including topics such as behaviour management, special educational needs, teachers' roles and responsibilities, and planning lessons and assessment of children's work. When deciding on which materials from the face to face course we would convert to online format, we were guilty to some extent, of the "where can we use this new toy" syndrome referred to above. It had proved difficult to find time to fit in the lectures covering these last two aspects of planning and assessment in to the unavoidably over packed program timetable. There had also been some debate by course tutors as to whether these aspects could be included to some extent as part of the subject knowledge based components of the course. Given that there had been some lack of clarity as to how to incorporate these aspects of the professional studies course, when the possibility arose to include some online materials within the PGCE course, planning and assessment presented themselves in the mind of the course tutors as potentially suitable candidates. This was not, perhaps, the most well reasoned of rationales. There was, though, a concomitant and more robust reason for developing online materials by the course team, which was their desire to introduce an element of increased flexibility into the provision of the course. Such increased flexibility was seen by the team as one potential way of developing access for particular groups of students, particularly mature students with significant home commitments.

## Development of materials

The pilot implementation involved converting two lectures into online learning modules using the Blackboard VLE Learning Unit and Test Assessment modules. These modules were designed to be completed by students within a particular time frame within the delivery of the overall professional studies unit, and could be completed by students either at the University using open access computers or using their own facilities at home. The learning unit technology presents web pages in the Blackboard environment in a linked sequence, guiding students through the materials in a particular path. Questions requiring an interactive reflective response are also presented to students at points within the Learning Unit sequence using the blackboard test suite. At the point of reflecting on the questions, students were offered an opportunity to link through to a discussion forum and to exchange their ideas and consider other's interpretations, along with input from myself as moderator. As well as text based materials, additional visual and short video content were also presented, including video material demonstrating teaching sequences in the classroom, which were used to exemplify issues around planning and assessment raised in the text based material.

## Implementation

The materials were developed by me as an academic involved in the teaching of the PGCE course in conjunction with support from technical staff within computer services, and in the University's learning and teaching enhancement unit. Close co-operation was also maintained with the lead tutor for the professional studies unit.

The materials were trialled with students over the 2006/7 academic year. Initial introductory sessions on the use of Blackboard and the specific online materials were included in the course calendar. As the evaluation shows, there were relatively few access issues in terms of the general materials. There were however, significant issues with accessing the video materials, although a consideration of this and its remedies and lies outside the scope of this paper.

## Methodology for evaluation

The approach to evaluation was considered during the developmental phase. It was decided to use an attitudinal survey based on Likert type rating scale responses (Cohen, Manion and Morrison 2007). Accordingly, a long questionnaire was constructed in conjunction with other staff tutors. One should perhaps note here Alexander's analysis of evaluation methodology in Higher Education (Alexander (1999)). As she points out in her review of HE project evaluations in Australia, increased positive student attitudes do not necessarily give clear evidence of improved learning outcomes. Nevertheless, Alexander herself recognises the methodological difficulties that exist with measuring the impact of course changes such as the introduction of blended materials on such outcomes, although some authors have proposed specific assessment frameworks. For example, Laurillard (2002) suggests a phenomenological approach to assessment, using structured interviews designed to encourage students to reflect on their cognitive processes. Yet Laurillard's examples tend to be skewed in favour of concepts drawn from science and engineering. It may be that for subjects such as education, where hard data on student learning outcomes is perhaps more difficult to derive, that student attitudinal surveys will remain a significant element in the evaluation of course changes.

The questionnaire was administered to students during one of the final taught sessions before they commenced their second teaching placement in May 2007, thus forming an opportunity sample which gained responses from 90% of the overall cohort (136 students completed the questionnaire).

## Questionnaire content

The questionnaire covered specifically the level of home commitments outside of those relating to the course and the attitude to the usefulness of the flexibility of the materials. A further question was included asking respondents to indicate their pattern of usage of the online materials across the week, i.e. to indicate on which days they tended most to work on the materials. This question was based on a working assumption that if flexibility of access was an important factor for students with significant home commitments, then this would be reflected in their temporal patterns of engagement with the online materials. For example, it could be postulated that such students could be more likely to work on the materials later in the evening (perhaps after childcare responsibilities were reduced) when compared to students without significant home commitments. Thus this question was intended to investigate if patterns of usage varied across different groups of students, giving further potentially useful information in particular on how students with significant home commitments made use of the materials. There was also space provided on the questionnaire for open text general responses.

## Analysis of data

A very significant majority (94%) of the respondents overall felt that the flexibility of the online materials, in the sense that they could be completed when or where they chose, was either useful or very useful. With regards to level of home commitment, the analysis indicated that 25% of students perceived themselves as having very significant commitments, 47% significant commitments and 21% a low or very low level of significant commitment. Nine students failed to complete this question. A further two questions also asked them to indicate pattern of usage, specifically at what time of day they typically used the online materials and whether or not this was at the weekend. Two students did not complete this section of the questionnaire.

An analysis was undertaken of the categorization of responses to attitude to flexibility in terms of level of home commitment. The results of this analysis are shown in Table 1.

Level of Home Commitment	% Responses Perceived Flexibility as Very Useful	% Responses Perceived Flexibility as Quite Useful	% Responses Perceived Flexibility as Less Useful or Much Less Useful	Number of Responses
Very significant	65	32	3	(39)
Significant	51	44	5	(64)
Low significance or very low significance	44	53	3	(30)

Table 1 Analysis of perceived usefulness of flexibility by level of home commitment

These results, although for a relatively small sample, are interesting and potentially significant because they do indicate a trend which suggests that students with more significant home commitments tend to perceive the flexibility afforded by online course provision as more useful. Thus 65% of students who rated their home commitments as very significant felt that the flexibility of the online materials was very useful, as opposed to 44% of those who rated their home commitments as being of low or very low significance.

The questionnaire also had space for open text responses in relation to this question. Although relatively few students made an open text entry, a number of the entries from students who rated their level of home commitments as very significant indicated that they did view the flexibility offered by online learning in a positive light. For example:

*“Online learning gives flexibility; fits in with family circumstances; I am fairly computer literate and have good facilities at home”*

*“It was quite nice to have the flexibility + another way working on offer. Variety is always good”*

Interestingly, comments from students who rated their home commitments as significant, although still positive, were less specific in relation to the key issue of flexibility, as in these examples:

*“Nice change from university learning”*

*“Easy, effective way of learning once getting over initial problem of logging on”*

A further analysis was undertaken, categorising responses to attitude to flexibility in terms of pattern of usage. This did not show any correlation between level of home commitment and weekend working. For example, only 5 respondents out of 34 who indicated that their level of family commitment was very significant mainly worked at the weekend. Accordingly, an analysis was also undertaken focusing only on the majority of students (109 out of 134) whose main pattern of engagement with the online materials was not at the weekend, to see if there were any specific engagement patterns during the working week. The results of this are shown in Table 2 and Figure 1.

Level of home commitment	Typical access time (%)							Overall number of responses
	6am to 9am	9am to 12 pm	12pm to 1pm	1pm to 4pm	4pm to 6pm	6pm to 12am	12am to 6am	
Very significant	0	44	12	12	12	19	0	(34)
Significant	0	33	7	23	13	23	0	(68)
Low significance or very low significance	0	7	21	57	0	14	0	(29)

Table 2 Cross analysis of pattern of usage by level of home commitment for respondents indicating that their main usage was *not* at the weekend

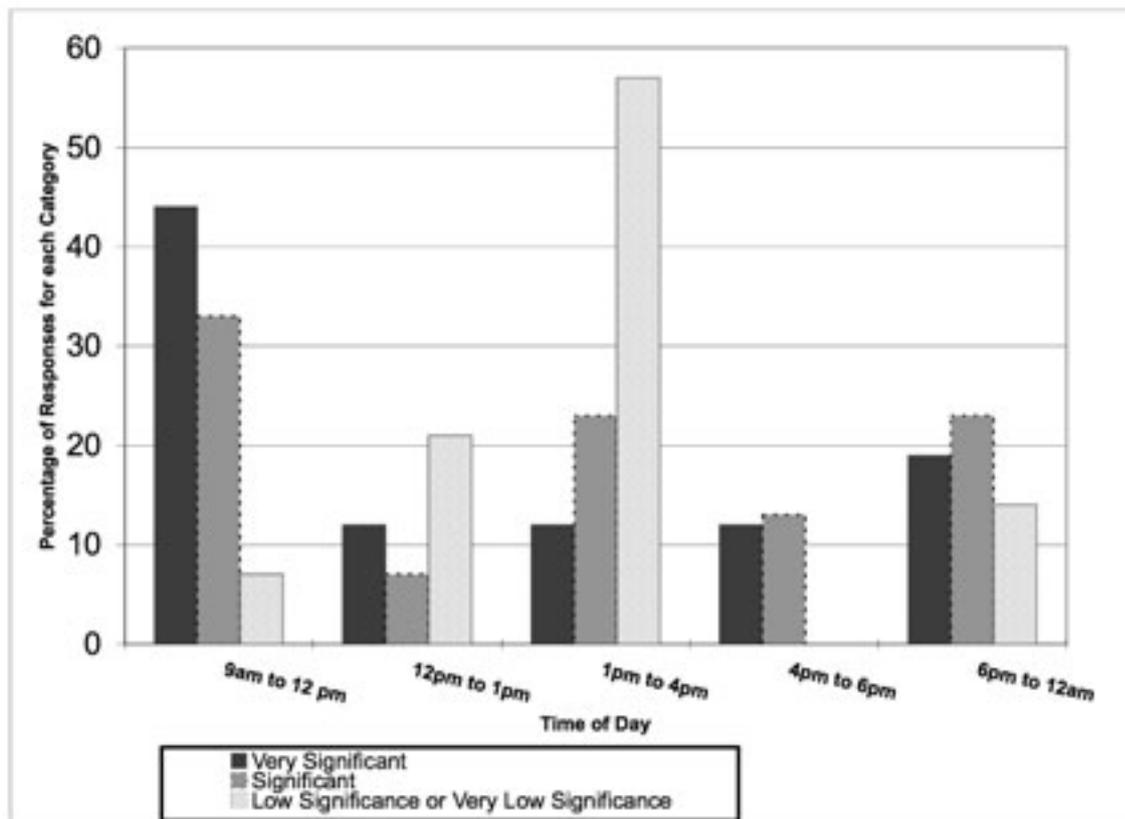


Figure 1 Cross analysis of pattern of usage by level of home commitment  
Data for time periods '6am to 9am' and '12am to 6am' indicated no responses and these time periods have been omitted from Figure 1.

Figure 1 shows that the broad trend of the results suggest that respondents with a higher level of home commitment tended to access the online materials more in the morning on weekdays and that those with less significant levels tended to access the materials more in the afternoons. It might have been expected that those with significant levels of family commitment would access the materials to a greater extent in the evening (from 6pm onwards) and although there is a small indication of this trend in the results it is not particularly marked. Thus in overall terms, although the data shows some differences in temporal pattern of engagement with the materials between different groups, it is not clear

how this might relate to considerations of the utility of the flexibility of access of online materials.

## Conclusions

Higher Education is no longer an arena where the academically select enter their courses with a broadly uniform set of lifestyles and skills. In such a context, as Laurillard (2002) has pointed out, it is no longer possible to rely on the lecture as the key way that we teach students. It is not possible in the typical lecture setting to gain enough understanding about the individual learning needs of a diverse group of students. Thus, Graham (2006) and Maor (2003) amongst others have identified the need to consider how the introduction of blended learning offers the chance for academics to reconsider and perhaps transform their underlying approach to teaching. This could mean changing the focus of learning from what the lecturer delivers in a session to a research based approach whereby the student researches and develops ideas which then form the basis for analytical and critical consideration in both asynchronous technological fora like discussion boards as well as in face to face sessions. In addition, globalisation and the increasing perceived need for knowledge based skills to achieve economic competitiveness have meant that the political imperative in many countries is towards continual expansion of the proportion of the population accessing Higher Education.

The desire in many countries to tackle inequalities in access based on socio-economic background and gender, has led to a further cultural shift towards improving access for specific groups. Blended learning approaches, which increase flexibility by delivering some course materials online, thus allowing students to choose when and where they engage with the study materials, has been identified as one way of achieving this. This exploratory study has focused on the possible benefits of flexibility for one particular meta-group – those with significant levels of home commitment. It has given some evidence to support the proposition that students with higher level of home commitment do view the flexibility offered by online materials as being advantageous. There does seem to be a need, however, to investigate this “advantage” in more depth than was possible in this initial study. For example, it would be possible to use individual interviews to develop a more detailed profile of individual student background and to consider how specific study preferences and patterns vary depending on age, gender and the specific nature of the home care commitment. In particular, such an approach would potentially shed more light on the significance of the temporal pattern of engagement with online materials. In other words, a more detailed appraisal of the reasons as to why individual students choose to access and work on the materials at specific times could give a richer picture of how it is that students with significant home commitments incorporate their study requirements in to their lives. This could, for example, usefully give further information on the challenges faced by particular groups, such as mothers with young children under five, and how the flexibility of access offered by online learning does or does not make a significant difference in allowing them to arrange their lives in such a way that their overall level of engagement with their course of study is enhanced. It could also allow for the development of a more nuanced understanding of how students with significant home commitments view the balance between face to face an online interaction in blended approaches.

Although, as the data presented here suggests, it seems likely that flexibility of access is important, it is certainly possible that for at least a minority of such students the need for social interaction remains an important motivational factor. Developing a greater understanding of how such students balance their home commitments with their course requirements throughout the week could lead to a clearer view on how best to balance the two components in course design. Thus such information could be of very real benefit to those responsible for developing courses and deciding on study modes, particularly in Higher Education institutions which wish to implement policies which potentially foster widening of access and participation.

## References

- Alexander, S.** (1999) An Evaluation of Innovative Projects involving Communication and Information Technology in Higher Education. *Higher Education Research and Development*, **18**, 2, 173- 183
- Cohen, L., Manion L. and Morrison K.** (2007) *Research Methods in Education (Sixth Edition)*. Routledge, London.
- Crane, R.** (2006) Adults, Access and E-learning. *International Journal of Learning*, **12**, 5, 211–214
- Graham, C.** (2006) Blended Learning Systems: Definition, Current Trends and Future Directions, In: Bonk C and Graham, C. (Eds.) *The Handbook of Blended Learning*. San Francisco, Pfeiffer.
- Harden, R. M. and Hart, I. R.** (2002) An international virtual medical school: the future for medical education? *Medical Teacher*, **24**, 3, 261–267
- Hofman, J.** (2006) Why Blended Learning Hasn't Yet Fulfilled Its Promises: Answers to Those Questions That Keep You Up at Night, In: Bonk, C. and Graham, C. (Eds.) *The Handbook of Blended Learning*. San Francisco, Pfeiffer.
- Huang, R. and Zhou, Y.** (2006) Designing Blended Learning focused on Knowledge Category and Learning Activities: Case Studies from Beijing Normal University, In: Bonk, C. and Graham, C. (Eds.) *The Handbook of Blended Learning*. San Francisco, Pfeiffer.
- Kirkwood, A. and Price, L.** (2005) Learners and learning in the twenty-first century: what do we know about students' attitudes towards and experiences of information and communication technologies that will help us design courses? *Studies in Higher Education*, **30**, 3, 257–274
- Laurillard, D.** (2002) *Rethinking University Teaching(2nd Edition)*. London, Routledge Falmer.
- Maor, D.** (2003) Teacher's and Students' Perspectives on On-line Learning in a Social Constructivist Learning Environment, *Technology Pedagogy and Education*, **12**, 20, 201–218
- O'Leary, R. and Cai, C.** (2004) *Students' online learning experiences: Case Study Summary: Economics Learning and Teaching Support Network*, Available online at [sole.ilrt.bris.ac.uk](http://sole.ilrt.bris.ac.uk) (Accessed 18th February 2007)
- Osguthorpe, R. and Graham, C.** (2003) Blended learning environments definitions and directions, *The Quarterly Review of Distance Education*, **43**, 3, 227–233
- Sharpe, R., Benfield, G., Roberts, G. and Francis, R.** (2006) *The undergraduate experience of blended learning: a review of UK literature and practice*. London, The Higher Education Academy.
- Stephenson, J.** (2001) Learner-managed learning – an emerging pedagogy for learning online, In: Stephenson, J. (Ed.) *Teaching and learning online: Pedagogies for new technologies*. London, Kogan Page.
- Swan, K.** (2001) Virtual interaction: design factors affecting student satisfaction and perceived learning in asynchronous online courses *Distance Education*, **22**, 2, 206–311
- Zemsky, R. and Massy, W. F.** (2004) Why the e-learning boom went bust *Chronicle of Higher Education*, **50**, 44, B6