

SURGE

JISC LIW for Academics Pilot Project:
Final Evaluation Report, March 2009

Version 2.0

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JISC LIW FOR ACADEMICS PILOT PROJECT END OF TRIAL EVALUATION REPORT

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Section 1: Key Point Summary

Introduction

Location Independent Working (LIW) is one mode of flexible working in its widest sense which would also incorporate, for example, flexible time and flexible contracts. The basis of LIW is neatly summed up by Morgan (2004). "...Work is not a place where you go but rather something you do"(p.304)¹. As such LIW consists of working at an alternative place rather than the office; it is not, simply home working. Whilst ample research exists on flexible working as a concept, including the enabling role of information and communication technologies; and in practice in the private and public sector [e.g. in various local authorities in the UK], much less has been articulated about the application of flexible working, and location independent working in particular, within the context of higher education [HE]. This report bridges this gap by presenting an initial evaluation of a scheme funded by the Joint Information Systems Committee (JISC) which is responsible for championing the innovative use of IT in HE. The aim of the scheme was to pilot LIW amongst academic and professional staff in the Faculty of Business, Environment & Society (BES) at Coventry University.

This provides an interesting case because within the HE sector the pressures to save space, reduce overheads and provide flexible working opportunities for staff are just as strong as in other sectors, but in HE this is uniquely coupled with the strong traditions of academia where staff are accustomed to a single person office space; a perceived sign of status amongst peers and students alike, as well as tremendous freedom to work in a flexible way.

Context

The report focuses on the experiences of 35 staff who took part in the pilot exercise in four cohorts between May 2008 and February 2009; the majority of whom are academics. This number is slightly lower than the target of 40, pointing toward the issue of loss of office space as a key barrier to participation. The introduction of LIW in BES built upon the successful adoption of the concept within Coventry University Enterprises Ltd [the commercial trading arm of Coventry University] where LIW has been practised amongst professional staff since 2002 and where some 70% of employees now work in this way.

¹ Morgan R.E. (2004) Teleworking: An assessment of the benefits and challenges, *European Business Review*, Vol. 16 No.4, pp.344-357.

However, the introduction of a formal LIW scheme within a University Faculty provides a unique insight into the application of this concept within an academic environment.

The introduction of LIW within BES was motivated by a combination of business, individual and environmental drivers. These include: reducing space needs, improving attractiveness as an employer, increasing the standard of teaching through the application of technological innovation, reducing absenteeism and stress, improving Work-Life Balance, reducing commuting time, and the legitimisation of home working.

Participants volunteered to take part in the scheme via a call for Expressions of Interest open to all staff, regardless of their department or service area. Decisions on those to be included were taken, primarily on the basis of the suitability of job role. Following this process participants [along with their managers] were trained, signed up to LIW terms and conditions and were then set-up with the LIW enabling technology [e.g. Laptop, Broadband (home or mobile 'Dongle'), Smartphone, Printer]. This technology-based solution enabled staff to work both remotely and flexibly. When on campus, as part of the space saving objective, staff were expected to work in a dedicated 'hot-desk' area and not in their former office, vacated as part of their LIW terms and conditions.

Each individual's trial period lasted for three months during which time they were engaged in evaluation through three face-to-face interviews, on-line questionnaires, and a Focus Group. Managers were also interviewed.

Findings

From the perspective of individual participants the pilot scheme has been overwhelmingly successful. Individuals report a host of benefits as a result of working LIW, and crucially, these largely tally with their aspirations prior to the start of the scheme. Specific benefits noted are: undisturbed time; better time management and organisation; better work-life balance and flexibility; increased productivity; reduced presentism; reduced travelling to and from campus/office, greater sense of control and empowerment; increased time for research and hence positive in academic profile raising; greater job satisfaction; and breaking down of silos between departments. Moreover, a number of unexpected positives also emerged. These include the ease with which participants felt able to adapt to new ways of working, the scale of flexibility enjoyed, the scope of opportunities

provided for remote delivery of teaching, health benefits and increased interaction with Faculty colleagues.

Where negative issues emerged, they tended to relate to the functionality of LIW enabling technology. To a large extent these problems are minor and suggest the need to manage more effectively users expectations of the technology provided. However, some concerns about the appropriateness of technology to true location independent working, as opposed to home working, were expressed. These relate in particular to the size, weight and battery life of the laptop, the provision of secure transport and storage for equipment and the geographic coverage of mobile broadband.

Results also indicated that participants encountered other non-technological issues which point towards the need for changes in culture and mindset alongside the introduction of new technologies. For example, some staff perceived negativity towards LIW from both Faculty colleagues and managers. This suggests that better communication and awareness raising within the Faculty amongst the non-LIW community is appropriate. In addition, whilst flexibility is a key benefit cited by participants; inability to effectively manage time and place boundaries around work and home life, which can be easily blurred by the functionality of the enabling technologies, emerged as a further negative issue for some participants. This highlights the importance of providing broad based training to LIW staff, beyond the technical aspects of the scheme, as well as the need for strong self-discipline.

At an individual level, the implications of the majority of lessons arising from the evaluation revolve around the need to improve communication and dissemination within the Faculty concerning the concept and reality of LIW; and increase the efficiency of training to enable participants to make the most of the LIW opportunities provided.

Longer term implications relate particularly to ensuring that the Faculty itself gains the maximum benefit from having staff working LIW. Whilst a degree of benefit is achieved through having happier, less stressed employees, full benefit in terms of space savings and efficiency gains for teams and departments will only be realised through a comprehensive reorganisation of space, and the change in mindset of staff that this

entails. This may require more radical strategies to develop open plan working environments that combine academics and professional service job roles.

Section 2: Evaluation framework

As part of their participation in the JISC LIW for academics pilot project, all staff were required to provide feedback and testimonies regarding their experiences in a variety of different ways. Specifically, participants were asked to take part in three face-to-face research interviews with evaluators from the Applied Research Centre in Sustainable Regeneration (SURGE). These interviews, which took place on campus, were scheduled to take place at the beginning, middle and end of each participant's three month trial period. The first interview focused on LIW aspirations and expectations, the second on feedback and formative lessons and the third on a summative assessment of their participation and decision to remain LIW or return to office based working arrangements. Face-to-face interviews with participants were supplemented by cross-cohort focus groups designed to elicit discussion between participants regarding the benefits and disbenefits of LIW, as well as asking them to consider ways in which the experience of LIW might be improved.

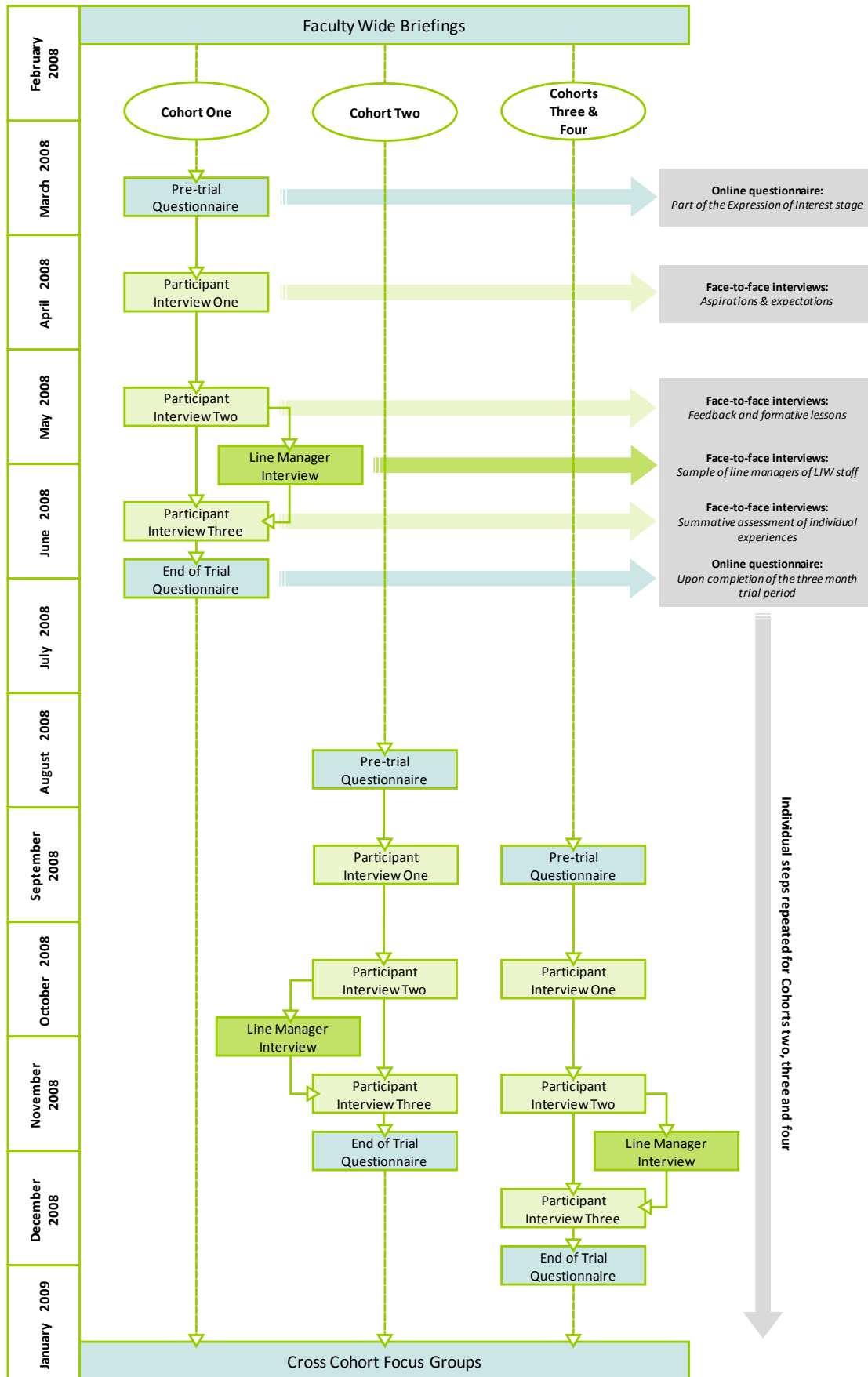
Alongside qualitative evidence from interviews, participants provided a set of quantitative data regarding their trial period. These were collected through separate online questionnaire surveys at the beginning and end of each participant's three month trial period. These quantitative data are of limited statistical value owing to the small number of participants involved in the pilot. However, in combination with qualitative data they provide information valuable in determining the success of the BES pilot and in designing appropriate future LIW provision for staff at Coventry University.

Evaluators from SURGE also interviewed a sample of line managers of all participants. Selections were made to cover the full scope of functional areas involved in the pilot, and the managers of a range of different job roles and seniorities. These interviews were also conducted face-to-face and established experiences of managing staff who are LIW. This sample is complimented by a further independently conducted evaluation of middle manager experiences within the Faculty (refer to Briggs, 2009)².

The evaluation framework described above is illustrated in Figure 1.

² Briggs, N. (2009) *LIW: The Views of Managers*, Report for the JISC funded LIW for Academics Pilot Project at Coventry University

Figure 1: The Evaluation Framework



This report subsequently provides an analysis of data collected from the various form of evaluation described above. Specifically, it presents:

- An analysis of pre-trial questionnaire data
- A summary of data from start, mid-point and end-of-trial interviews
- An analysis of post-trial questionnaire data
- A summary of data from interviews with participant's line managers

Information from the cross-cohort focus groups has been used to supplement findings from participant interviews. The report concludes with an overview of findings, triangulating data from interviews with participants and line managers and offers an assessment of whether LIW is an effective way of working for academic staff in BES, as well as a set of lessons which will be useful in helping to inform decisions about whether LIW is more fully adopted as institutional practice.

Section 3: Analysis of pre and post trial questionnaire data

LIW participants were asked to complete an on-line questionnaire PRIOR to them commencing the LIW scheme. This provides some useful benchmarks against which the success of the pilot can be measured. The results of the survey from 27 of the 35 participants are presented below.

1. Travel & Transport

Distance travelled to work

Distance	No.
0-5 miles	12
6-10 miles	2
11-15 miles	3
16-20 miles	2
21-30 miles	2
31+ miles	6
TOTAL	27

Commuting time

Time Taken (mins)	No.
0-10	3
11-20	5
21-30	8
31-45	3
46mins - 1 hour	2
Over 1 hour	6
TOTAL	27

- Six participants typically travel over 30 miles to the University with individual journey times over 45 minutes. Most, however, travel less than 5 miles.
- Three-quarters of respondents cited a private car as their main mode of transport to work
- Car Sharing would be considered by half of respondents - reasons for not engaging include the distance to be travelled, a reduction in flexibility and external commitments
- The overwhelming majority of respondents indicated that whilst at work any journey of less than one mile would be undertaken on foot
- Prior to going LIW all respondents were working from home to some extent; 80% between one and three days per week
- 85% of respondents indicated that less than a quarter of their typical job involves travel to meetings outside the University

2. Office Environment and Equipment

- 75% of respondents indicated they had enough space at home to establish a suitable LIW working environment, the remainder indicated that the space was 'potentially there'

3. Initial fears/concerns about going LIW

- Participants' initial fears and concerns were minor and centred around storage space; and the potential for LIW to inhibit career development through being 'out of the loop' and missing out on the day-to-day team environment

4. Perceived initial benefits of LIW

- Work-life balance improvement e.g. more opportunities to balance time with the family e.g. walking children to school
- Reduction in stress caused by commuting and parking
- Reduction in time and costs spent commuting
- Some elements of teaching can potentially be delivered off-campus thereby reducing the need to be on-site
- Improved concentration and focus as participants will no longer be in a shared office and/or a busy and noisy environment
- Greater control over the structure of hours worked
- Improved productivity and efficiency through providing uninterrupted work time
- Improved focus on research outputs and writing tasks through a reduction in the number and frequency of interruptions
- Less presentism

5. How can LIW contribute towards reducing carbon footprint?

- Reduced car travel
- Using public transports (bus/train) when required on site
- Satellite links to present conference papers instead of travelling to the conference

6. How will LIW contribute towards reducing travel costs?

- Less car travel therefore less expenditure on petrol
- No parking charges when working LIW
- Reduced wear and tear on the car

Estimates on potential annual savings on travel costs ranged from £50 - £2000.

Section 4: Summary of start of trial interviews

1. **At the start of the LIW project what were your initial aspirations and expectations? Did you have any major concerns about going LIW?**

ASPIRATIONS PRIOR TO GOING LIW

- Improved work-life balance through working remotely more efficiently and effectively than at present
- Ability to balance private appointments (e.g. family, health etc.) and work commitments within a less formally structured working day
- Re-energising and legitimising home-working practices through improved support systems which eliminate personal expenditure on work related duties (e.g. phone calls, printing, and internet use).
- Being able to work effectively in a variety of non-office locations
- Reduction in commuting time leading to greater flexibility in work-life balance
- Better structured working time with uninterrupted 'space' to develop an active research agenda and establish greater academic credibility, alongside scope for more formal/informal breaks in the working day.

CONCERNS PRIOR TO GOING LIW

- Loss of office environment and space for storage of academic text books
- Perceived loss of academic status through giving up a permanent base on campus
- Reduced sense of belonging/attachment to the University
- Adequacy of hot-desk space provided on campus
- Dislocation from colleagues and social networks on campus
- Ability to use LIW equipment effectively
- Possibility of greater monitoring and scrutiny of attendance compared to other (non-LIW) colleagues [e.g. through Outlook calendars].

2. **How well informed were you during the LIW set-up period? Did you feel ready and prepared to go LIW on the start date?**

Feedback from participants was mixed, with some feeling more prepared than others. Minor technical issues were noted in terms of the readiness and availability of LIW equipment, but support systems for resolving these issues were identified as

excellent. Some concerns were also expressed regarding the flow of information to participants prior to them commencing the trial, leading to a lack of clarity about whether they were accepted onto the scheme, and if so when they would be starting. Some participants felt that they had to be proactive in order to obtain the information required.

3. What were your impressions of the briefings and training that you received? Did it adequately prepare you for LIW

- Participants found the Faculty wide briefings to be helpful and encouraged them to sign up for the pilot scheme. However, it was felt that the subsequent training session provided little added value to the previous briefings designed to recruit Faculty staff to the pilot. Specifically, training was thought to be too general and provided little information about the equipment which participants would be given and how they could use it effectively. Participants felt that the training should have been structured around the LIW handbook
- Training was also perceived to be too focused on ‘working from home’, and especially the health and safety dimensions of working in the home, rather than the cultural and psychological aspects of working LIW
- There was felt to be too much emphasis in briefings and training on the need for LIW participants to operate flexibly at the expense of stressing the importance of increased flexibility from colleagues
- One participant suggested that part of the LIW experience was about the individual learning and developing ways of working that suited them and in that sense they should not necessarily expect a greater degree of hand holding
- Technical support provided at this stage of the trial was regarded as very helpful

4. How have you found the LIW set-up and process (a) when you are LIW and (b) when you come into the University?

WHILST LIW

- The general impression amongst participants at this early stage was that working LIW had been a positive experience – enabling them to undertake all the tasks that they would normally do from an office base on campus. Participants were still getting used to the equipment provided, and learning how to use it most effectively. However, a number of minor technical issues were noted. First, there

was frustration about not being able to access local drives or send documents to print directly from the Remote Desktop connection. Second, some participants had experienced connectivity and signal difficulties both in using Thin Client and their Smartphone. Third, participants were not briefed about the download limit warnings on their mobile broadband (*Dongle*), leading to fears that they were running up huge bills for the University.

WHILST WORKING ON CAMPUS

- General feedback on the hot-desk space provided improved over time and between cohorts as purpose built facilities came on stream in the Faculty's William Morris and George Elliot buildings. The location of the hot-desk room in the William Morris Building was regarded as particularly advantageous being adjacent to the main staff room. This, it was suggested, makes it easier for LIW participants to maintain contact with other staff within the building
- Not being able to print from the wireless network was initially identified as a problem by a number of participants. This problem was subsequently resolved following feedback from the first cohort, and the creation of new hot-desk facilities noted above
- Whilst participants were pleased that storage space was provided for them on campus [filing cabinet drawers], concerns were expressed about the security of this space for LIW equipment and other personal items

5. Since starting the LIW project have you needed to access technical support? If yes, has the support resolved the issues that you had?

Technical support provided to participants was consistently described as 'helpful', 'effective' and 'efficient'. In addition, the LIW blog was described as very helpful. However, as identified in question 3 above, participants would welcome more detailed *technical* training prior to commencing LIW. This relates, in particular, to the use of and costs associated with equipment which is new to them such the Smartphone and Dongle.

6. What are your initial impressions and experiences of LIW in relation to your pre-project expectations? Have you experienced any immediate problems or been pleasantly surprised? Has your working behaviour (e.g. in terms of work-life balance) changed?

- Participants have made use of the University's e-learning 'flying squad' and have been made aware of new techniques for delivering online interactive content to students
- Even at this early stage, a number of participants stated that LIW had produced positive work-life balance and carbon-footprint effects (e.g. from reduced journeys into campus)
- However, a number of negative psychological effects were also identified by participants. These included social dislocation and guilt about not being visible on campus. One participant suggested that the issue of social dislocation could only be negated if all members of a single team were working in the same way (i.e. LIW)
- Some participants were also finding it difficult to place a boundary around the working day as the provision of new technology makes it easy and tempting to deal with administrative tasks such as email during the evening/night
- For some participants, the transition to LIW was less pronounced than anticipated, in that electronic ways of working and communicating are already commonplace within Universities

7. How do you feel your colleagues have responded to your going LIW? Have you had any formal discussions with them about your new working arrangements?

At this stage of the trial, most participants had informed their immediate colleagues of their LIW status, either in person or via email. Generally, such colleagues were reported to have been very supportive and helpful, if not surprised and curious about individual participant's motivations. However, some LIW participants reported a perception that their colleagues and managers were treating them differently to non-LIW staff, with a greater degree of control and interrogation concerning their activities and whereabouts. In addition, some participants felt that their manager saw the scheme as an additional burden on their managerial workload.

8. How have your relationships with your students been affected by your going LIW?

Are they aware of any changes in your working arrangements?

Participants reported they had been more accessible to students since going LIW, as students can now leave voicemail messages for them on their Smartphones (whereas previously there was no answer phone function on office land lines). Moreover, the Smartphone also enables them to respond quickly to email enquiries wherever they may be, further enhancing the level of service provided. Staff also reported improved organisation on the part of students in that LIW has forced them to respect staff office hours and to proactively organise appointments when they want to see individual members of staff.

9. Are you planning to introduce any changes to your teaching methods as a result of going LIW?

A number of participants were excited by the possibility of introducing changes to their teaching delivery methods e.g. on-line delivery and podcasts. However, at this juncture in the trial period these ideas were very much at the planning and exploratory stage. Where participants were exploring new ideas, they had received excellent support from the e-learning team.

Section 5: Summary of mid-point interviews [Six weeks into the trial period]

1. What has been the impact to date of LIW for your work life balance? (i.e. have you changed your working patterns and behaviour?)

At the mid-point of the LIW trial period it was noted that individual feelings of guilt about working off-campus had markedly reduced. Indeed several participants reported that they felt liberated from the formal 'nine-to-five' routine as a result of their involvement in the scheme. Other positive comments about the impact of LIW on work-life balance included:

- Greater flexibility, better quality of life and reduced stress
- Not working longer hours but working more productively as a result of new found flexibility and uninterrupted working time/space
- Necessitated better time management and organisation
- Improved personal energy levels as a result of a less condensed working day

However, in addition to these positive comments, participants noted some concerns:

- Displacement activity such as obsessive checking of email out of hours impinging on personal time and resulting in family tensions
- Discipline required to manage the work-home boundary, particularly the assumptions of friends and family that presence at home implies availability to do other [non-work] things

These issues emphasise the importance of broadening the scope of training provided to incorporate more about the cultural and psychological dimensions of LIW.

2. What has been the impact of LIW on the number and types of journeys that you make into campus? (i.e. have they decreased and do you find you are able to use different forms of transport?)

The majority of participants stated that they had reduced the number of journeys made into campus by at least one day per week. For those that hadn't experienced a reduction, this resulted from changing [or non-typical] personal and professional circumstances that necessitated a greater number of journeys to campus than would otherwise be expected.

3. What has been your experience of using hot-desks and bookable meeting rooms on campus?

William Morris Building

Participants suggested that the hot-desk space provided is readily accessible and well located in terms of its proximity to the staff room, enabling regular contact with other Faculty colleagues. However, concerns were expressed about the capacity of the room if further cohorts were to join the scheme over time. Storage space continued to be an issue, particularly around Module course materials that would have to be moved from vacated offices.

George Eliot Building

For George Eliot staff, the initial lack of dedicated hot-desk space [affecting the first cohort] necessitated the use of different working environments. These included a part-time lecturers' shared room, libraries, cafes and colleagues' offices. The dedicated George Eliot hot-desk room came on stream in September 2008. Despite initial security issues, the room has been welcomed by LIW participants resident in this building as an additional resource when on campus.

Futures Institute

In the Futures institute staff already work in open plan offices catering for 6-7 staff. As such LIW participants resident in this building are familiar with a hot-desk type environment and therefore little change has been noted. Working off-site has been common practice as a means to provide undisturbed space and time for writing.

4. How has the relationship with your line manager and colleagues evolved during the course of the LIW pilot?

To a large degree participants' relationships with their line managers / departmental colleagues have either continued in the same fashion as they were prior to LIW or have evolved positively over the course of their trial period. For example, a number of non-LIW colleagues have been extremely positive in offering support in terms of storage and meeting space, whilst others have enquired about the experience of LIW with a view to going LIW themselves. However, for some LIW staff, relationships with managers and/or colleagues have been difficult. This to a large extent reflects the degree to which managers support the scheme and colleagues understand the concept.

5. Is the equipment and support that you receive to allow you to work LIW fit for purpose? (What additional technology or support would help to improve your LIW experience?)

Aside from one or two minor glitches, participants are overwhelmingly positive about the LIW equipment and its fitness for purpose. In addition, all participants noted the quality and responsiveness of technical support provided by Faculty technicians. Technical difficulties that have been experienced typically relate to university wide IT infrastructure such as variable connectivity to campus wireless networks and the functionality of the Remote Desktop Connection. However, some complaints were noted regarding the usability of the Smartphone, and its tendency to 'freeze up'. Once again, part of the solution to such problems is the effective management of participants' expectations before they go LIW; as well as communicating solutions to minor issues.

Several participants continued to express concern over the Dongle. Download limits appear to be reached very quickly, especially when working abroad. Clearer guidance needs to be provided about what the actual usage allowances are.

6. To what extent do you communicate and share stories with other LIW pilot participants?

Prompt: are you aware of the online LIW pilot 'blog', set up to allow participants to exchange experiences? If yes:

- a. have you made use of it?
- b. how useful do you feel this tool is?

For the most part, participants had not used the dedicated Blog facility, relying more on sharing experience face-to-face between themselves and/or with departmental colleagues. In the early days of the scheme some use was made of the Blog to raise queries with the LIW project team, but as a discussion tool, despite promotion and awareness raising, the Blog remained largely under-utilised perhaps reflecting the relatively small size of the pilot sample.

7. Reflecting back over the past six weeks

- a. Do you feel that your initial concerns were justified?
- b. What do you feel are the principal benefits to you of working LIW (provide examples)
- c. How might the scheme be amended to improve the experience for future cohorts?

CONCERNS AND RESPONSES

Understanding and flexibility of colleagues: An emerging message from LIW participants was the feeling that non-LIW staff need to meet participants half way in terms of their flexibility around organising and conducting meetings, for example, in considering the use of online technology. However, this also requires that non-LIW Faculty staff are briefed, trained and supported to be able to do this, and recognition and appreciation of the benefits for everyone in utilising these methods.

Concerns about a culture of presentism: Participants' feelings of guilt about working off-campus have generally diminished over time, and they have become more positive and assertive about the concept of working off-site. Indeed, it was noted that LIW has provided a sense of empowerment as well as excitement from being involved in a pioneering and cutting edge initiative (reflected in the scheme being shortlisted for a

THES award in 2008). However, it was felt by some that line managers could do more to support this process from the outset and reduce the impression (false or not) that they are applying a greater degree of scrutiny to participants than is the case for their non-LIW colleagues.

Diminishing social contact: Whilst the majority of participants have not experienced diminishing social contact to date, they expressed concerns about the possibility of it occurring over time. Related to this point, concerns were raised about the negative effect of spatial separation on the creativity and spontaneity that comes as being part of a small co-located team. However, participants also recognise that the maintenance of social relationships is a two way process and that they can do more to mitigate this risk themselves. Where whole teams are LIW, difficulties in maintaining team dynamics and the loss of informal meetings, where new ideas are often generated, were noted.

The loss of personal office space: Initial concerns about the loss of personal office space from the point of view of losing both a fixed desk and one's 'academic status' have not been realised. However, as a result of vacating their office, a point raised by almost all participants concerns the adequate provision of secure storage for course materials e.g. Module Guides, coursework/exam scripts...etc within the dedicated hot-desk facility. This is likely to become problematic if the scheme were more widely applied across the Faculty.

PRINCIPAL BENEFITS

Even at the six week stage of their LIW trial, participants were able to identify a wide range of benefits. These included:

- Freedom of mind, expressed in being able to have a greater choice and flexibility about when to come into campus and when to work LIW without the downside of guilt.
- Health benefits arising from: eating more regularly and relying less upon quick to prepare convenience foods; having the flexibility to walk children to and from school; and improved scope for fitting regular exercise routines within the working day (e.g. using gym or swimming during the time ordinarily spent commuting to campus)
- Quiet and undisturbed time linked to greater productivity
- Ability to plan and organise more effectively, including spill over effects for non-LIW colleagues through improved use of planning tools such as Outlook Calendars
- The ability to be able to send and receive email where and whenever you are
- Rationalised communication (e.g. through the *Smartphone*) provides significant efficiency gains for those with split-site roles
- Increased quality of life and work-life balance
- Renewed motivation to do things outside of normal duties
- Providing part-time staff with the opportunity to increase their hours through flexible use of time beyond the traditional working week
- Possibilities for enhancing teaching through the utilisation of LIW technologies and, therefore, for positive impacts on students

IMPROVEMENTS FOR FUTURE COHORTS

Similarly LIW participants pointed to a number of potential improvements, some of which have been addressed and integrated into ongoing delivery of LIW within the Faculty

- New participants need to be offered training in the effective use of the LIW equipment prior to them commencing the scheme. This ideally should include simulated practice and focus on the differences between accessing university systems remotely compared to on-campus

- Independently initiated meeting involving participants, their line managers and technical support to explore and practice new methods of communicating and holding meetings (i.e. web cams etc.)
- Wireless printing facilities should be made available within hot-desk rooms. THIS ISSUE WAS RESOLVED DURING THE COURSE OF THE PILOT SCHEME BASED ON FEEDBACK FROM PARTICIPANTS
- Senior Management within the Faculty should consider whether it is reasonable or realistic for Faculty IT support to maintain a dedicated level of service to a greater number of LIW participants without the commitment of additional resources. Should there be dedicated IT support for LIW staff at the University level?
- A useful addition to the LIW handbook would be a list of commonly asked questions, problems and issues and how to solve them. THIS SUGGESTION WAS ADOPTED ON THE LOCAL LIW WEBSITE.
- Preliminary meetings with line managers/colleagues to openly share and discuss what LIW involves and what it means for ALL parties
- A more open approach to the recruitment of staff to the LIW scheme which utilises the experiences of current participants and presents the reality [not just the theory] to potential future participants.
- Explore the potential of creating a formal LIW community that will help in facilitating formal interaction between participants.

EMERGING LONG TERM ISSUES

(ASSUMING WIDER UPTAKE OF LIW ACROSS THE FACULTY/UNIVERSITY)

- As more and more staff work LIW it will be important for Faculty (Departmental) Management to consider ways in which identity and community can be maintained despite a diminishing physical presence on campus.

- Timetabling of student contact hours should ideally be joined up with the concept of LIW so that no member of staff has teaching commitments every day of the week. Without this, potential benefits to staff in terms of flexibility and increased efficiency will not be realised.
- Potential for conflict created by the flexibility of location independent working operating alongside the fixed hours contracts of office-based professional/support staff, with different expectations about staff availability and response times.
- The relatively low numbers of LIW staff within the Faculty, particularly at departmental level, can mean that staff are 'forced' to work within the framework set by the majority of non-LIW staff, including, for example, when, where and how meetings take place. This can mean that staff are not fully realising the benefits of LIW as they feel obliged to reorganise their calendars to suit colleagues/their department, leading to concerns about loss of academic freedom.
- Views were expressed that asking LIW staff to work at hot-desks whilst in the University does not help to inspire loyalty to the organisation and may engender a feeling that they are being exploited by the University attempting to address its space issues through home working. Tackling this concern requires that on-campus provision for LIW workers is of high-quality and keeps pace with investment in remote working technologies and any future expansion of the LIW scheme.

Section 6: Summary of end of trial interviews [at the end of the three month period]

1. Reflecting back over the past twelve weeks how would you sum up your LIW experience?

The majority of participants found LIW a very positive and rewarding experience. Over time they had adjusted well to new ways of working [especially the flexibility], explored the possibilities offered by new technologies, and for the most part, had not been as affected by the loss of office space as was anticipated.

[a] Does it represent an effective way of working for your role?

Overwhelmingly participants suggested that LIW is/can be an effective way of working. This applies to staff across a range of functions: teaching, research and professional support. Although after 12 weeks this was difficult to fully quantify, a number of examples of effectiveness were cited, as well as suggestions to make the scheme even more effective:

- The scheme can have a positive effect on time management and organisation
- The scheme can be effective provided that you are organised and do not isolate yourself. It is the role of the individual to maintain team contact and not rely on others
- LIW can provide better flexibility, productivity and work-life balance
- Experience of the pilot scheme suggests a need for dedicated management and support systems for LIW participants. Concerns were expressed that too often it was down to the individual participant to drive the process/administrative tasks associated with the scheme otherwise things would not get done.
- The University can help staff make the most of the opportunities afforded by LIW through more concentrated timetabling of student contact hours
- Non-LIW staff also need to be fully on-board with the concept and geared-up (mentally and physically) to communicate with colleagues

[b] What in particular has been positive about working LIW?

The following 'positives', presented in no particular order, were identified by participants. These positives illustrate how benefits of LIW are felt by the host institution and the wider environment as well as the individual concerned.

- Better working environment providing undisturbed time
- Better time management and organisation
- Better work-life balance and flexibility (e.g. flexibility to balance work and family commitments by operating outside a 9-5 regime)
- All staff felt that they were more productive when working LIW. Additionally some staff reported that they were more likely to continue working when 'under the weather' as they were able to work flexibly from home.
- Reduced presentism
- Less travelling to and from campus/office releasing time for more productive tasks and reducing costs (financial and carbon)
- Greater sense of control and empowerment
- Increased time for research and hence positive in academic profile raising
- Greater job satisfaction
- Improved working relationship with manager/colleagues [NB: facilitated by close proximity of the hot-desk area to the team]
- Better off-site communication (e.g. through University mobile/Dongle), including greater propensity to make contact by phone rather than email.

[c] What has been negative?

Some negative issues were identified, the majority of which are of a technological nature and partly relate to the capacity to work remotely i.e. not just from home:

- Connection and download speeds [especially with the Dongle], and the functionality of the University's new (*Summer 2008*) Virtual Private Network (VPN).
- Inconsistent performance of the wireless network on-campus and limited availability of wireless printing facilities generally
- Inconsistent network performance of SmartPhones
- Issues with connectivity/compatibility overseas [again through Dongle]

- ‘Clunkyness’ of additional steps required to perform basic functions, such as printing and file management off-site
- Lack of flexibility in terms of the extent to which LIW equipment provided is tailored to individual requirements, and the ability to adapt/change it according to on-going experience. Related to this point, LIW staff expressed concerns over the inconsistency of messages from IT support teams.
- Concerns over security of hot-desk area, especially in relation to facilities for locking away LIW equipment and personal belongings
- Perceived degree of ‘unnecessary’ bureaucracy e.g. filling in forms to claim £2/per week home utilities rebate
- Some perception of a lack of managerial support for LIW staff and the scheme as a whole.
- Some sense of disorientation. The loss of permanent office space has for some participants been difficult to get used to in terms of no longer having all their work materials in one location.

[d] Have there been any unexpected advantages or disadvantages of working LIW?

LIW participants identified a number of benefits and drawbacks that they had not anticipated from the outset of the Scheme. These are outlined below:

Unexpected ADVANTAGES

- The ease with which it has been possible to adjust to LIW, work productively at home and not be as easily distracted as anticipated.
- The degree and scope of flexibility enjoyed i.e. being able to radically restructure one’s working day to suit individual need and circumstances.
- Discovering new ways of working e.g. on-line teaching methods.
- Improved level of service provided to students. Participants’ felt that LIW forced both staff and students to become organised in relation to respecting staff office hours, whilst at the same time they were able to respond more quickly to electronic communications received from students
- Feeling more energised at the end of an LIW day than is the case with an office-based day.
- Engaging with colleagues, both within and outside departments, more regularly than was the case before.

Unexpected DISADVANTAGES

The three comments below suggest that better communication and awareness raising is needed within the Faculty.

- Issues of negativity towards LIW from departmental colleagues who do not really know what the scheme is about, leading to problems of dislocation for LIW staff.
- Some perceptions that line managers treat LIW participants' as less important staff because they are no longer office based.
- LIW perceived as a 'soft option' by some managers and colleagues

2. If you were starting your LIW experience afresh are there any ways in which the scheme could be delivered differently to make it more effective?

Participants suggested a number of practical ways in which the scheme could be modified to make it more effective. Many of these were IT related and were subsequently resolved as the scheme progressed. For example:

- Providing printing facilities in the LIW dedicated *meeting* room and wireless printing in the hot-desk areas.
- Placing FAQ sheets on the dedicated web site.
- Providing multiple high-quality hot-desking areas, catering for the needs of a split site Faculty

In addition to the above list, further potential improvements to the scheme were identified, providing a set of issues for consideration in any future LIW provision. These include, for example:

- Experience of users suggests the need to be flexible [within practical constraints] in tailoring the provision of LIW equipment to individual need along with scope for adaptation during the course of the scheme according to changing circumstances
- Evaluation also suggests that the equipment provided is geared more towards home working that mobile or 'location independent' working in its truest sense. For example, concerns have been expressed over the weight of the laptop provided and its poor battery life, and the availability of secure facilities for the transport and storage of equipment

- Procedures for printing off-site when using Remote Desktop Connection should be explained more clearly to users
- Involve existing users in supporting and mentoring new LIW staff in the early weeks of their transition to new ways of working
- Users expressed a desire for enhanced dedicated LIW support infrastructure, including IT, increased levels of admin support, and clearer communication and information channels
- Better explanation of the IT equipment provided to LIW staff, particularly how to get the most out of it and problem solve for yourself [e.g. the Smartphone]
- Focus more on practical-based LIW training, covering technical, cultural and psychological issues, rather than simply conceptual information about LIW and Health and Safety regulations
- Reduce bureaucracy e.g. the need to formally claim the £2/week home utilities rebate
- Good practice suggests that dislocation issues can be mitigated through, for example, allocating one day each when all members of a team are required to be present on-site
- The ability to adapt to an LIW way of working is, in part, dependent upon the nature of particular job roles and individual personality types. This relates less to functional areas (e.g. professional services, technical, academic), but more to the content of specific jobs and the mindset of individual workers

3. Would you recommend LIW to colleagues?

If YES, how would you 'sell' the idea to them

Almost all LIW participants said that they would recommend LIW to their colleagues. Their key selling points relate to the attractiveness of the package, flexibility, reduced presentism, increased work-life balance, undisturbed time and increased well-being.

"LIW offers flexibility and reduces presentism"

"...LIW enables participants to make their own [decisions] about how they deal with student contact, both in terms of their office hours and how they utilise online delivery methods. LIW is also useful in learning how to work smarter"

“LIW gives you more freedom in your mind. For many staff there would not be much difference in actual terms but you definitely feel less ‘guilty’, less thinking about should I be there in the office. LIW gives you this freedom”.

“There are numerous benefits in terms of increased personal energy levels and well-being, reduced stress and less interrupted time...LIW also provides an additional benefit/perk to the job. It is an attractive package that is a good selling point for future recruitment.”

“LIW has provided a better quality of life with my family without effecting the output and quality of my work; my productivity has increased and I am communicating better with my line manager and other colleagues”

“I haven't been working in this way for very long but I can't imagine ever going back to a fixed base”

“Generally I have found LIW to be an improved way of working. While it takes time to get used to new technology, it is wholly beneficial to my career and lifestyle”

In the case of other participants, whilst they would not directly recommend/sell the scheme to others, they would not ‘rubbish’ it either, feeling that LIW suits different people in different ways and that individual staff should really make their own minds up.

4. Has your travel pattern in terms of journeys into work changed as a result of your participation in the LIW pilot scheme? [If YES please specify details]

For the most part, participants travel behaviours in terms of transport modes have not changed as a result of going LIW. For many switching away from their private car is either unpractical or undesirable. At the same time, not surprisingly all participants have reduced the number of journeys that they are making into the University with the positive knock-on effect in terms of time and costs saved. These issues are quantified in Section 7 below.

5. Do you feel that working LIW has affected your domestic energy consumption?

Savings from reduced travel time and costs can to some degree be offset by increased domestic energy consumption where the participant is primarily working from home. Our analysis suggests however, that this is hard to quantify. Energy use at home, especially heating, is of course seasonal. In addition, it is very difficult to measure the extent to which any increase in bills can be directly attributed to home working. Moreover, the timescale of the trial (3 months) does not permit for a full evaluation of the impact, even if this were possible. It is worth noting that participants were concerned with domestic energy issues given the escalating prices during the course of the pilot scheme, but ALL indicated that this would not put them off continuing with LIW.

6. Do you think that you are going to remain LIW or do you intend to return to your former office based working arrangements?

With one exception ALL participants indicated that they would wish to remain LIW following the completion of their trial. This indicates that there is broad support for the scheme as a way of working for staff in Higher Education Institutions. There are many positive benefits for staff working LIW, whilst at the same time a number of issues have emerged which if addressed can ensure that these benefits are sustained in the longer-term.

Section 7: Summary of post-trial questionnaires

Participants were asked to complete an on-line questionnaire following the completion of their three month LIW trial. The aim of the questionnaire was to collect quantitative data on participants' experiences in relation to: the training they received; their LIW working behaviour; the use and experience of LIW enabling technology; and the impact of LIW on productivity, work-life balance and stress. In addition, participants provided data on the impact of LIW on reduced journeys to work and the associated savings in terms of time. From this information travel cost and carbon emission savings have been calculated. Data collected from 21 participants are summarised below:

Preparedness for LIW

- Just under 60% of respondents (17) found the LIW training and briefing sessions either "informative" (12) or "very informative" (5). The remainder felt that training was not at all informative.
- After being set-up with their LIW equipment three-quarters of respondents felt 'competent in accessing and using all the remote ways of working available.
- The lack of overwhelming endorsement of the training reflects earlier comments regarding the content of the training (see page 11).

LIW Working Behaviour

- The survey found that since becoming LIW staff are more likely to work after 6pm than was the case before (67%), and for just under half (48%) more likely to work weekends. However, this reflects the flexibility provided by LIW rather than staff necessarily working additional hours. Indeed, 81% of respondents indicated that the structure of their working day has changed as a result of being LIW. For example:

"[I start] earlier start in the morning, [enjoy] a couple of breaks during the day, finishing in the evening when I am most productive"

- The majority of staff (86%) reported that they are taking regular breaks during an LIW day.
- Most respondents had settled into an LIW routine at the time of their end of trial survey (62%). Examples are provided in Sections 3-5 of the report.

- For the majority of respondents (72%) the level of communication they have with team/department colleagues has not changed as a result of going LIW. Similarly, 57% reported that the level of communication with their line manager has not changed. At the same time 33% felt that they were communicating more with their line manager since going LIW.

Experience of using the LIW enabling technology

- The vast majority of LIW respondents (95%) reported that they were satisfied with the enabling technology and equipment that the scheme has provided. Just less than half of these are very satisfied. At the same time issues were raised regarding the mobility of the equipment and on the level of training (see page 27).
- Where respondents have sought technical help whilst working LIW, the majority (85%) have found the level of support to be good (50%) or very good (35%).

Productivity

- All participants responding to the survey felt that they were more productive working LIW. This ranges from 10%-40% (15 respondents) to more than 40% (6 respondents).

Work life balance

- For almost all respondents (95%) their work-life balance has changed for the better since working LIW. This supports the evidence found throughout the evaluation process (see Sections 3-5).

Stress

- Some 62% of respondents reported that LIW had had a positive effect upon their stress levels. For example:

“I feel I can manage my work and home life better. It is a very civilised way to work”

“My stress level and general health have both significantly improved”

- At the same time others expressed concerns regarding the need for strong self-discipline:

"[LIW] has both simultaneously reduced and increased stress levels! Boundaries between home/work are less easy to define so sometimes it becomes too easy to work when it would be better for personal health etc... not to do so"

"I find it very beneficial, although I do have to be more disciplined in how I work to ensure that the family impact is minimised"

Impact on journey times, travel costs and carbon footprint

The average LIW car user is:

- Typically travelling 21 miles to work in a single journey, spending 31 minutes on the road
- Now making 3 less journeys to work per week
- Travelling an average of 45 miles (72km) less per week
- Spending 80 minutes less per week commuting to work
- Reducing their carbon emissions by an average 12kg per week [or 0.5 tonnes per year].
- Saving £14 per week in petrol and vehicle running costs [£630 per year]
- Saving £3 per week on car parking charges [£132 per year].

[See Annex 1 for full details, calculations and assumptions]

Testimonies

- All respondents reported that LIW is a positive experience and all feel that the scheme is 'valuable' to them (with half saying that it is 'invaluable'). The following testimonies include neatly capture this experience:

"I have been told by medical personnel that I need to do some more exercise! LIW has enabled me to schedule sessions on swimming during the day. This is much less stressful and the sessions are quieter than in the evenings. It also means that I can work in the evenings. I work best in the evenings!"

"I haven't been working in this way for very long but I can't imagine ever going back to a fixed base"

“Generally I have found LIW to be an improved way of working. While it takes time to get used to new technology, it is wholly beneficial to my career and lifestyle”.

“LIW allows me to perfectly balance the needs of my job and the needs of my young family. I can work in the evenings when the students and many of my employer contacts are working and then spend time with my young family after school sometimes. I complete lots of preparatory work on Sunday evenings setting up for the week ahead. I am an organised and disciplined person so LIW suits both me, and the job I have perfectly”

“I am enjoying LIW, because of the flexibility it affords me in completing tasks...Working at night also ensures very few distractions, unlike the office environment. LIW does not mean that I do not go in to the office. It means that I have the choice of going in or not”

“LIW has positively contributed to my work/life and health balance. I feel more productive, focused and energised”

“For me, LIW has meant that I can work more flexibly, and has saved me travel time, travel cost, and reduced my carbon footprint. It's highly suited to the nature of my job because I teach in blocks, and at other times tend to work on projects. I use my time in Coventry efficiently by managing my diary carefully, so that days I am in the office tend to be quite busy with meetings. I've tried to ensure that I am no less contactable than if I was in the office”.

Section 8: Summary of Line Manager Interviews

The following analysis provides a summary of interviews undertaken with a sample of line managers of LIW staff as part of the internal evaluation. Interviewees were drawn from academic and professional service areas. The analysis should be read in conjunction with the external evaluation of manager perspectives (see Page 5).

1. As a Department Head, what were your initial feelings towards the LIW Pilot Scheme?

[a] How appropriate is the concept of location independent working to your team situation?

In principle, managers of LIW staff were supportive of the scheme, recognising the potential contribution that it makes to providing focused undisturbed time, thereby helping to improve productivity and individual well-being. However, at the outset, managers also articulated a number of reservations. These related to issues such as: how other [non-LIW staff] would react, the extent to which contact with staff/students would be maintained, how team dynamics would be affected; and whether the complexity of middle managers' roles would increase. For managers of professional staff concerns were expressed that service levels would suffer if customer facing staff were LIW.

There was also a view that the Pilot had 'missed a trick' by being applied cross-faculty rather than department based. The view was that the concept could have been better tested in one or two individual departments, especially in terms of impact on timetabling and staff/student contact.

Another view was that the concept provides a step in the right direction for the Faculty but to be truly effective it would need to be part of a longer term strategy of re-organising space [open-plan set-up combining academics and professional services] and changing the mind-set of staff. The policy of office lock-outs alongside the perceived remoteness of the hot-desk space from individual departments was seen by some managers as detrimental to the success of the Pilot. This latter view contrasts with those held by participants themselves who welcomed both the location [close to main staff room] and the opportunities for cross-departmental and cross-functional working presented by the hot-desk environment.

2. Did you feel that the managers training sessions prepared you fully for the task of managing LIW staff: did it address your questions and concerns?

All managers found the briefings / training useful by way of preparation for having a member of their staff working LIW. Whilst there was a view that the formal training session could have been scheduled earlier to permit more effective discussion with LIW staff, it was seen as productive in terms of providing a good opportunity for discussing and sharing ideas with other managers, as well as problem solving with the Project managers. For example, addressing issues such as managing the disappointment of staff who's roles were not deemed suitable for LIW, and managing LIW staff performing non-traditional LIW roles (e.g. IT support staff).

3. How has having a member of your team working LIW operated in practice?

[a] Experience of managing LIW staff [e.g. flexibility]

Generally the experience has been positive to date; LIW staff have been 'visible' and flexible, whilst non-LIW staff have been made aware of the situation through team meetings...etc. However, there was a view that the real impact of LIW could not be examined until staff have worked through a full academic cycle. One manager also expressed a slight concern that LIW had detrimentally increased electronic communication at the expense of face-to-face contact.

[b] What difficulties/surprises have emerged?

Managers were able to identify several positive surprises that they had not expected:

- The extent to which LIW necessitates better time management and increased efficiency on behalf of the individual
- LIW may facilitate smarter-working across departments and functions
- The possibilities offered by LIW technology emerged as more promising/exciting than expected, although difficult to fully realise at the moment [e.g. the logistics and equipment requirements to facilitate remote attendance at meetings]
- Team sharing of Outlook calendars has been a positive bonus
- Evidence in some cases that LIW has re-energised staff

[c] How has your working relationship with the participant evolved?

Despite the short timescale of the pilot some examples emerged where working relationships, from the managers' perspective, had evolved positively between themselves and LIW staff. This has been facilitated, for example, by actively promoting better team cohesion [including social events]; increased two-way communication e.g. through sharing of outlook calendars and increased email traffic; and through both sides gaining confidence/trust as the pilot progressed without incident.

[d] How do you feel you are supporting the LIW participant? [is this any different to the way you would normally operate]

The only minor difference reported by managers, following the initial one-to-one meetings, has been some reported increase in email traffic either direct or copied in, primarily seen as a 'safety-net' for staff to maintain their visibility. Otherwise managers have not supported LIW staff any differently.

[e] Have you noticed changes in the well being [stress levels/ happiness/ productivity/ attitude to work etc.] of the LIW participant?

LIW managers were able to identify a number of examples where the LIW scheme has had a positive impact on participants. Staff were said to be re-energised, much happier and more positive. In some cases this resulted from a positive change of working environment, [and/or] in others from the freedom and flexibility offered by the scheme. Only in one case did a Manager report a negative reaction, perceived to be borne out of the frustration experienced with the remote working technology.

[f] What has been the impact on the team as a whole?

This question generated a mixed-bag of responses:

- Negative, in terms of the loss of a phone line to a small office as this had to be diverted to LIW participant's mobile
- Positive, in that the scheme has provoked a great deal of interest in remote working amongst team colleagues
- Positive, in that where whole teams are LIW, including the Manager, jobs can be done seamlessly be remote contact and not held up, for example, until the Manger returns to the Office

- Positive, in that non-LIW team members have sought to problem solve in other ways rather than rely on ever presence of an LIW staff member
- Negative, in that the scheme has provoked jealousy in respect of perceived fuss made of LIW staff in terms of the 'kit' that they receive. On the other hand, this may have a positive side-effect in that more staff may see LIW as a way forward
- Positive, in that staff have broadened their networks beyond their immediate team environment as a result of hot-desking
- Positive, if only in the sense that there has been no formal negative feedback from non-LIW staff to their managers

[g] What has been the impact on your own workload?

The impact on Managers workloads, following the initial briefings and preparation, is seen by them as negligible.

4. How would you sum up your experience to date?

In essence the message from LIW managers was positive, especially in terms of the benefits that LIW has brought to the majority of staff involved. However, there appears to be some consensus that, in order for the concept to be truly effective in the long-term, the Faculty has to plan for a more effective use of space that will allow for academics and professionals to work together in an open rather, than strictly office-based, departmental environment.

5. Would you consider making LIW generally available to all members of your team?

If YES, what implications would this have for the management function?

If NO, why not?

Generally managers are supportive of the notion of wider LIW opportunities across teams with some caveats:

- LIW will not suit everyone. It needs to remain an informed choice, not imposed
- The structure and set-up has to be right to facilitate wider team-based LIW (see Point 4 above)

6. What additional support is need – polices/guidelines/resources?

The following suggestions were proposed:

- Increased administrative support in dealing with student enquiries is the key to making LIW more widely available and effective for academic staff. The first line of student support within each department should come from an 'ever-present' officer. The second line of support could come from programme managers who are best placed to deal with generic issues, with the third line of support, reserved for specifics, available from lecturing staff via email and telephone.
- A structure that is fit for purpose – if LIW is to be taken seriously and work most effectively. This will have resource implications e.g. in terms of building layout.
- Greater investment in shared online resources and increased quotas on shared drives so that LIW staff can store all their files in one place and have access to them wherever they are working.
- To work most effectively LIW will require investment in building design that enables academic staff and professional support staff to work together in an open environment. Existing University buildings such as the TechnoCentre and Futures Institute provide examples of how this can work.
- In order for staff to have confidence in working LIW the scheme needs to be backed and supported by all line managers, and consistent messages applied across the Faculty. If it is not this will lead to inequality of opportunity and discourage potential LIW staff from expressing an interest in this way of working.

Section 9: Overview, lessons and implications

Overview

From the perspective of individual participants (drawing upon the face-to-face interviews reported above, end of trial questionnaire and cross-cohort focus groups), the pilot scheme has been overwhelmingly successful. Following the conclusion of the pilot scheme, only one participant has decided to return to their former non-LIW status. Individuals report a host of benefits as a result of working LIW, and crucially, these largely tally with their aspirations prior to the start of the scheme. Specific benefits noted are:

- Better working environment providing undisturbed time
- Better time management and organisation. Participants noted that this included reduced dependency on paper copies of documents
- Better work-life balance and flexibility
- Increased productivity
- Reduced presentism
- Reduced travelling to and from campus/office releasing time for more productive tasks and reducing costs. This has been particularly important for staff who's homes are geographically distant from Coventry, to the extent that several reported that they would no longer be working at Coventry University without the flexibility provided by LIW
- Reduced carbon footprint
- Greater sense of control and empowerment
- Increased time for research and hence positive in academic profile raising
- Greater job satisfaction
- Improved working relationship with manager/colleagues [NB: facilitated by close proximity of hot-desk areas to the team]
- Better off-site communication e.g. through University mobile/Dongle.

Moreover, a number of unexpected positives also emerged. These include:

- The ease with which participants felt able to adapt to new ways of working
- The scale of flexibility enjoyed
- The scope of opportunities provided for remote delivery of teaching

- Improved level of service provided to students. Participants' felt that LIW forced both staff and students to become organised in relation to respecting staff office hours, whilst at the same time they were able to respond more quickly to electronic communications received from students
- Health benefits arising from: relying less upon quick to prepare convenience foods; having the flexibility to walk children to and from school; and improved scope for fitting regular exercise routines within the working day
- Environmental benefits through reduced dependency on paper copies of documents
- The hot-desk environment has helped to facilitate contact with staff beyond participants' 'home' department and role, thus breaking down silo working from both an inter-disciplinary and inter-functional perspective

Where negative issues emerged, they tended to relate to the functionality of technology. To a large extent these problems are minor and suggest the need to manage more effectively users expectations of the technology provided. However, some concerns about the appropriateness of technology to true location independent working, as opposed to home working, were expressed. These relate in particular to the size, weight and battery life of the laptop, the provision of secure transport and storage for equipment and the geographic coverage of mobile broadband.

In addition to technological concerns, some staff perceived negativity towards LIW from both Faculty colleagues and managers, an issue reinforced through the independent Briggs survey. This suggests the need for improved education of non-LIW staff and managers regarding the principles and benefits of LIW, and effective ways of ensuring that LIW staff do not become dislocated through attitudes of their managers and colleagues.

The evaluation has uncovered some good examples of the effect of LIW in reducing participants' carbon footprint. These typically relate to reduced car travel to and from the University. Substitution effects (i.e. increased energy consumption at home) are unclear given the short timescale of the pilot. In order to fully evaluate these 'green' effects, participants' behaviour needs to be monitored over a longer period of time and incorporate a larger body of LIW staff.

Lessons

Throughout the evaluation, participants identified a number of useful lessons that can be applied to future cohorts of LIW staff in order to make an already successful scheme even more effective; especially if it were to be applied to greater proportion of Faculty staff beyond the lifetime of the pilot scheme. Specifically these include:

- Bespoke training on LIW equipment should be offered to new participants to ensure that they are confident of getting the most out of the opportunities afforded by the technology
- Additional training around the cultural and psychological aspects of working independently is required alongside practical technology based and health and safety related training. This could be achieved, in part, by offering new LIW participants a mentoring service during the early weeks of their transition
- Consideration needs to be given to the capacity of Faculty/Team level IT support to deal with wider roll out of LIW. Should there be more dedicated 'centralised' IT support for LIW staff at the University level? Alongside this, dedicated LIW support infrastructure would seem to be appropriate.
- Clear and slick communication/information channels across the Faculty are required to ensure that the LIW concept is fully understood. These could include Faculty wide briefings from senior management staff and testimonies in newsletters
- As far as is practically possible, decisions about the provision of LIW equipment should be tailored towards the individual participant's need, reflecting the requirements of their job role, rather than simply reflecting a generic package of tools. Moreover, flexibility should be provided to enable staff to change/adapt equipment according to changing circumstances
- Arrangements for the storage of university materials such as course files, marking and key text books need to be considered fully

- Timetabling of student contact hours needs to be joined up with the concept of LIW so that ideally no member of staff has teaching commitments every day of the week
- Cross-departmental hot-desking has proven advantageous in breaking down departmental and functional silos, and ought to be a central component of any further LIW provision. Moreover, experience from elsewhere in the University (where LIW has been applied over a longer time period) suggests that provision of quality hot-desk facilities which keep pace with investment in remote working technologies is critical especially when participants' on-campus time still accounts for the majority of their working week.
- Mechanisms to ensure that the departmental colleagues of LIW staff fully understand LIW, and are able to create a supportive environment for location independent working where staff are not disadvantaged by negative attitudes towards the concept. For example, preliminary departmental meetings could be used to openly share and discuss what LIW is about and what it will mean for all parties.
- Consideration of the extent to which non-LIW staff need to be provided with supporting technology such as web-cams to truly enable remote working. This can help facilitate a process whereby LIW staff feel less pressured to always accommodate the needs of non-LIW staff in terms of, for example, when, where and how meetings take place.
- Faculty managers need to carefully assess the potential for conflict created by the flexibility of LIW alongside the fixed hours contracts of office-based professional/support staff, with different expectations of staff availability and response time.
- The flexibility offered by LIW provides a unique opportunity to promote the university as an employer of choice, enabling recruitment of staff from a broader geographical area

- Importance placed on the trial period to ensure that participants have the opportunity to fully assess and evaluate their suitability for LIW
- In a higher education context, the implementation of LIW needs to be accompanied by wider changes in the cultural mindset of academic staff, in particular, in order to overcome their concerns about loss of status and storage if they give up a dedicated office space.

Implications

At an individual level, the implications of the majority of lessons outlined above, revolve around the need to improve: communication and dissemination within the Faculty concerning the concept and reality of LIW; and the efficiency of training to enable participants to make the most of the LIW opportunities provided. Other lessons, particularly those relating to timetabling of student contact hours, secure storage and the availability and use of technology, may have resource implications. This needs to be considered by the Faculty particularly if the scheme is made more widely available.

Longer term implications relate particularly to ensuring that the Faculty itself gains the maximum benefit from having staff working LIW. Whilst a degree of benefit is achieved through having happier, less stressed employees, full benefit in terms of space savings and efficiency gains for teams and departments will only be realised through a comprehensive reorganisation of space, and the change in mindset of staff that this entails. This requires a longer term strategy to develop open plan working environments that combine academics and professional service job roles.

Appendix 1: Impact of reduced Car Journeys on time, cost and carbon emission savings

Home post code	Distance to work (miles)	Distance to work (km)	Time to work (mins/single journey)	No. single journeys saved/week by being LIW	Number of reduced MILES per week	Number of reduced KM per week	Journey time saved per week (HOURS)	g/CO2/km	Carbon Emissions reduced per week (KG)	Car usage savings per week @32p per mile (£)	Car Park charges saved per day @ £2/day
CV6	2.6	4.2	9	2	5.2	8.4	0.3	165	1.4	1.66	2
CV3	2.8	4.5	10	4	11.2	18.0	0.7	165	3.0	3.58	4
CV3	2.8	4.5	10	4	11.2	18.0	0.7	165	3.0	3.58	4
CV5	3.5	5.6	12	2	7	11.3	0.4	165	1.9	2.24	2
CV5	3.5	5.6	12	2	7	11.3	0.4	165	1.9	2.24	2
CV5	3.5	5.6	12	2	7	11.3	0.4	165	1.9	2.24	2
CV5	3.5	5.6	12	2	7	11.3	0.4	165	1.9	2.24	2
CV2	4.4	7.1	13	8	35.2	56.6	1.7	165	9.3	11.26	8
CV34	11.2	18.0	21	4	44.8	72.1	1.4	165	11.9	14.34	4
CV11	11.5	18.5	28	6	69	111.0	2.8	165	18.3	22.08	6
CV10	11.5	18.5	28	4	46	74.0	1.9	165	12.2	14.72	4
CV11	11.5	18.5	28	4	46	74.0	1.9	165	12.2	14.72	4
LE17	19.5	31.4	36	4	78	125.5	2.4	165	20.7	24.96	4
CV37	20.3	32.7	31	0	0	0	0	165	0	0.00	0
OX17	33.5	53.9	40	4	134	215.7	2.7	165	35.6	42.88	4
B68	34.8	56.0	46	2	69.6	112.0	1.5	165	18.5	22.27	2
NG2	51.2	82.4	68	2	102.4	164.8	2.3	165	27.2	32.77	2
DE22	54.1	87.1	70	4	216.4	348.3	4.7	165	57.5	69.25	4
SO31	129	207.6	139	0	0	0	0	165	0	0.00	0
Cummulative	414.7		625	60	897	1443.58	26.43		238.19	287.04	60.00
Average/wk	20.735		31.25	3	44.85	72.18	1.32		11.91	14.35	3.00
Average/yr							58.15		524.02	631.49	132.00