What do they do with IT?

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Background and rationale

Student utilisation of personal computers is very much on the national and international educational agenda. The Joint Information Systems Committee (JISC) has undertaken a three-year project to monitor the use of electronic information within Higher Education. The Pew Internet & American Life Project (Pew, 2001) has been looking at overall usage of the web by college students in the USA. The majority of today's undergraduate students have grown up in a world where there have always been computers, the Internet, and mobile phones. The use of the Internet is, for many students, integrated into their daily communication habits. The University of Wolverhampton is investing heavily in I.T. and this project developed out of a need to have a better understanding of how students are using the computers within the Harrison Learning Centre[1]. How many students actually activate their university accounts? Is the layout of the Harrison Learning Centre I.T. suite suitable for the ways it is used? How long do students sit at PCs on average? How are students utilising the Internet? When are peak usage times? The answers to these questions will help the Learning Centre to see where it needs to prioritise I.T. infrastructure and support.

The research

The majority of the study on student usage took place between the beginning of October and end of December 2003 and focussed on the Harrison Learning Centre. The Harrison Learning Centre is a four floor learning centre with a total gross area of 9,375 square meters. The I.T. suite on the third floor houses 200 open access PCs. The centre at the time of the project was open for students to use the PCs 93.30 hours a week. The University I.T. Services sourced the software 'Cyfin' that looked at patterns of Internet usage and ran some of the reports needed. There were large amounts of electronic data that had to be examined and collated.

Three main methods were used:

- Software based analysis and information gathering - 'Cyfin'

- Observation

- Talking with students at PC's

The total number of students at the University of Wolverhampton is nearly 22,000. Of these students, some 15,000 activated university I.T. accounts in the academic year 2003/2004. The major influence on this take up of I.T. accounts appears to be the Wolverhampton Online Learning Framework (WOLF). Students need their I.T. accounts to access on-line learning materials to support their study. This figure of activation of I.T. accounts has risen year by year as more and more learning materials have become available on WOLF. This figure however does not necessarily reflect the number of users of University based machines as WOLF can be accessed from any computer with internet connection once the user has created a university I.T. account. Evidence from a previous university project (Dalziel, 2003) has shown that 75% of students have access to a PC outside of the university. It is expected that once students need to use the same password to access the Athens databases,

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[1] The main library on City Campus, University of Wolverhampton

from October 2004, then virtually every student will be keen to register for an I.T. account. It was very clear from the research done for this project that many students still prefer to use University I.T. for the specialist software, free Internet usage and the social interaction.

The outcomes

At the time of the project The Harrison I.T. suite was open from 9.00 until 15.00 Monday to Thursday, and until 19:00 on a Friday. Saturday opening times were 13.30 – 17.30. and Sunday 13.30 - 21.00. The research showed the busiest time on average in the I.T. suite was 11.00 - 14.30, and 17.00- 18.00 Monday to Friday. There were times during the survey that none of the two hundred PC's in the IT suite was free! The busiest late night, 22.00 - 3.00 a.m., was a Thursday. The average number of users over the 3 months of the survey in this particular time slot was 49. The busiest weekend slot was a Sunday, with an average of 75 users.

The figure below shows a typical week's data.
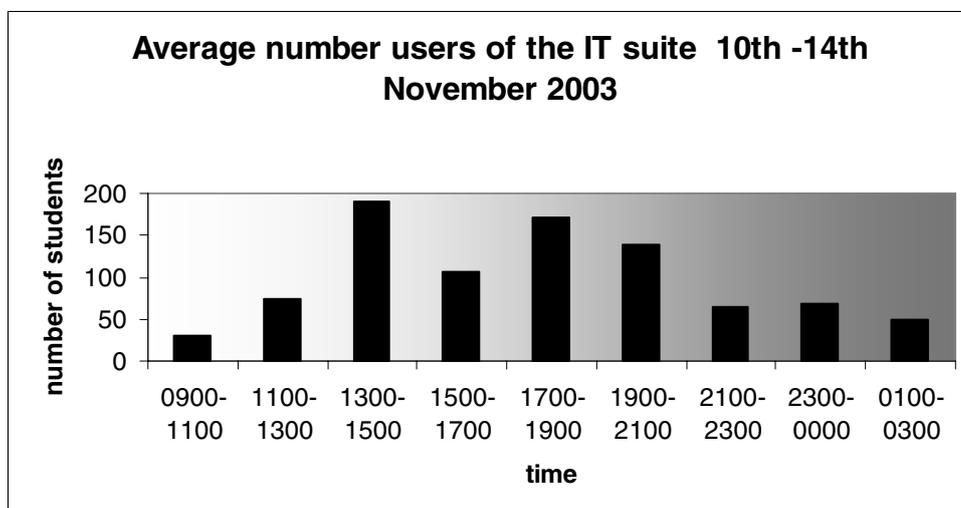
The data obtained showed that the computers in the Learning Centre were being utilised by students, but not what they were actually being used for. The study showed that what students were doing on the machines altered from day to day and hour to hour. The highest utilisation overall was use of the Internet. This use included research as well as email and leisure use. 'Social' versus 'work' use was definitely influenced by assessment schedules. The ratio of work to play switched towards the end of the period studied as the January assessments loomed.

Web-based email is commonly used by students; the most visited web based email sites are Yahoo and Hotmail. In the typical week shown web-based email sites were the second highest percentage of total Internet activity. Checking email is a frequent activity of all students. Overseas students in particular rely on email as their primary communication method contact for friends and family back home. They also spend time checking European Internet sites for news and features from their home countries. It was noted that students tend to use these web-based accounts more than they do their university accounts. This is proving a problem for the university when it comes to contacting students as many have multiple addresses.

Graph showing Categories of most visited internet sites 2-9th November 2003
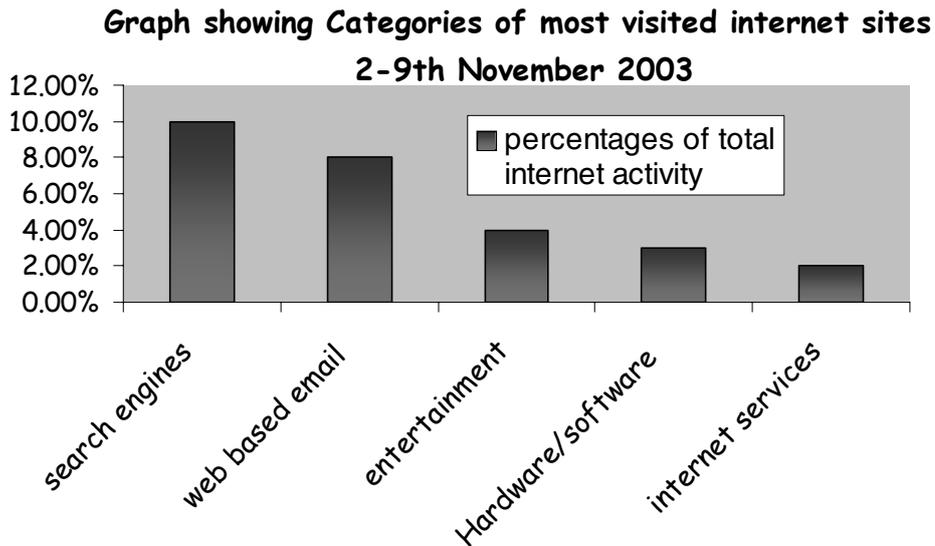
The highest Internet activity was in the area of search engines for research of which 'Google' is the most popular one. Students seem to rely a great deal on searching the Internet for both their academic studies and leisure activities. It would appear that for many students the Internet is their first port of call for up to date information. The Learning Resources information pages had up to 115,000 hits a month during the period of the research. Students make use of these pages and their links to other areas of research and databases.

Overall the university pages were well used by the students. As previously mentioned, WOLF is heavily used by students to access course notes, related resources and support materials. The graph below shows how many different users accessed the WOLF pages (Brett, in press). The figures have steadily risen year on year and so has the amount of information on the pages. There was a definite expectation from students that WOLF should support all modules.

Number of different users who have acessed WOLF
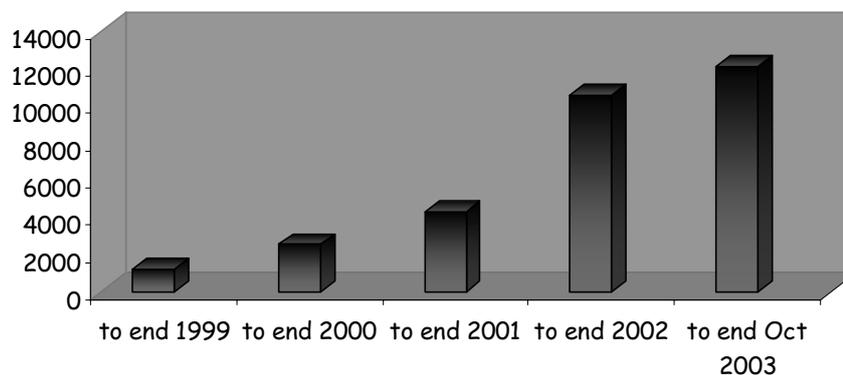
Evaluation

It quickly became obvious during the research that students like to be able to confer both physically and electronically. They learn from their peers - 'each one teach one'. This is one of the reasons that the Learning Centre makes use of "student helpers" in the I.T. suite. These are students who are paid to pass on knowledge to their peers. Observation

showed there was a definite 'social' element to work within the I.T. suite, despite the fact that the area is supposed to be relatively quiet and is not laid out in a way conducive to this. This 'social' element is far more marked among the younger students who are often using 'chat ' facilities emails and mobile phones to communicate. The more mature students seem to prefer silence, or a background sound level which is not intrusive. The research also showed that students use the IT suite more for social/leisure pursuits at the weekend, when overall there is less work activity happening. Many of the students spoken to had a PC at home that they used when they wanted to be quiet and concentrate, but still preferred to come to the university to use PCs for the social element and because they had free access to the internet. Most users spent on average 2.30 hours in the IT suite in one sitting. Many have certain areas of the IT suite that they prefer to sit in, often at the same PC. Users made use of the IT suite on average more than once a week.

One of the more interesting findings to come out of this report is to observe the amount of multi tasking that is performed by students. Students were seen talking to a friend, using 'chat', typing up an essay and emailing a friend simultaneously. Sometimes they were even texting on a mobile phone as well. It would appear that students like to play and work simultaneously. There is often no clear line between where work ends and play begins. This often seems to lead to the commonly held misconception that students using the IT suites are not always working.

To the casual observer it can appear that students are unable to focus on one task for a concerted amount of time, having to constantly divert from the job in hand. Is this as a lack of concentration on the student's part or a new way of working for today's 'information' generation? Never has so much information been at the fingertips of a scholar. In fact today's student needs to be information literate if they are to keep up to date with any subject in this information age. However, is the technology getting in the way of learning or helping the learning? Are the students not so much thinking as reacting to stimuli? These are interesting questions, worthy of further investigation.

Linking into this multi tasking is the use of wireless technology. This technology is changing the ways students use PCs. Bt the end of December 2003 over 1,000 students had registered wireless systems. It is interesting to think how much the spread of wireless access on campus will tip the scales further toward multi tasking as students are able to use email and other Internet tools anywhere, any time, on campus. What will the impact of this ubiquitous access on the existing campus computer infrastructure and indeed on classroom teaching and student socialising? Today's students are more and more coming to expect ubiquitous Internet access. They have learned to live in an environment where their expectations are that they should be in touch with others and with information throughout the day. This generation will more and more mix work and social activity on-line and further blur the boundaries between work and home, work and leisure. Multi-tasking will form part of the "convenience" mix for this generation as it matures.

Learning Centres may well have to accept that this social element to work, and design the I.T. services to facilitate the most productive approaches to learning. The current layout of serried ranks in the computer room is not conducive to group based computer work. Should the university be creating more social learning spaces where noise levels and eating and drinking issues are self-governing? Students are more used to group work and problem based learning which needs discussion. Partly as a result of the preliminary findings of this project, PCs have been dispersed within the Learning Centre and not just grouped together in the I.T. suite. This has led to more room within the I.T. suite and broken up some of the long rows. There has also been the creation of a quiet lab within the IT suite, as well as the quiet postgraduate lab in recognition of the fact that some students prefer to work in quiet surroundings.

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