Teaching our grandchildren to suck eggs? Introducing the study of communication technologies to the "Digital generation"

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Abstract

It has been argued that age-related and generational differences in communication technology use and more generally in learning style and mindset increasingly divide lecturers from students. This paper reports an investigation of one cohort of level 1 students' current communication practices and learning styles conducted in order to adapt a module in direct response to student need. A small scale survey of communication and web use was undertaken and students completed the Kolb learning style inventory. The results demonstrate that the sweeping generalizations of generational or age related difference are not a firm foundation for pedagogy. For example, familiarity and use of Web2.0 technologies was patchy and students seemed to prefer to be consumers not producers, though they did show a preference for immediate communication. This reinforced our sense of the need to teach students about many Web2.0 technologies, especially the content creation aspects. Students had diverse learning styles and their preferences did not suggest a radical change from the past. The need continues to be to offer a variety of learning opportunities for a diverse student body. The paper demonstrates the value of systematic data collection about students' existing knowledge and practices and of assessed reflective activities to stimulate students to be more active in negotiating a successful learning experience for themselves.

1. Introduction

In the light of the many claims that student use of the web and other communication technologies, indeed their fundamental learning styles may be changing, this paper reports a small scale investigation into level one undergraduates' use of Web2.0 and other technologies. The objective was to fit the module design to student need and behaviour patterns.

2. Background

It is a recurrent fear in Higher Education that lecturers are out of touch with students especially undergraduates straight out of school. Sacks (1996), for example, articulated fears about the conflict resulting from different views of education between "baby boomers" and "Generation X". Another generation gap has seemingly opened up with the identification of "Millennials" aka Generation Y, the Internet Gen or Nexters (e.g. Zemke, 2001, Oblinger, 2003, Raines, 2007) who are "digital natives" or the "google generation". Apparently Millennials are "sociable, optimistic, talented, well-educated, collaborative, open-minded, influential, and achievement orientated" (Raines, 2007). They are supposedly tied together by a shared set of demographics and by having lived through a set of defining historical events. A degree of scepticism about these alleged trends is surely justified. It seems odd, as the concept of a 'Millennial' generation does, for example, to bracket together everyone born since 1982; and the concept globalises American social trends. Even the wikipedia entry on the subject of "Generation Y" at the time of writing contained a large number of banners marking parts of the text as containing "original research or unverified claims" (Wikipedia, 2007).

Discussion of these alleged changes tends to be rather woolly and speculative. For example, Oblinger (2001) quotes Frand (2000) for a number of trends characteristic of the "information-age mindset" of the "new students". However, when probed these trends seems questionable. The first claim is that "computers aren't technology", i.e. that computers are taken for granted. However, clearly some technologies remain new and exciting, even if other

usages have slipped into the background as obvious and taken for granted. Other claims in this discourse are simply not true, e.g. “The Internet is better than TV” implies that TV has been overtaken by the Internet. In fact, while the Internet is eroding into TV watching time, TV still occupies more hours (Ofcom 2006). Furthermore, the Internet may be used for watching TV. One accepts the truth of many of Frand’s trends but they seem to affect us all, e.g. the growing intolerance of delay. The death of the real was heralded in the 1970s. Very broad changes do seem to be occurring and it is reasonable to suppose that those who are young now are more affected by them, but the generational framework for thinking about it seems at best simplistic.

It is more plausible to see many differences identified as generational as more properly reflecting differences of life stage. Thus Szeto (2005) quotes a schematic for seven ages of financial behaviour, based on life style and income tied to age. Presumably such a logic also applies to many aspects of behaviour. For example, university students have a certain set of communication needs and their personal social network has a particular (rapidly changing) shape; one that alters radically as they enter employment or get married. Lecturers have a very different pattern of communication and social network from students because they are in employment, have their own offices etc. Use of communication tools is likely to differ therefore because of life stage and associated practices far more than alleged differences of mentality. This is what Jakob Nielson seems to believe (BBC, 2007).

Further, it may be useful to recognise the impact of evanescent fashions, which may last a year, at most, not a generation. MySpace was very popular in 2006, Facebook is the most popular site with students in 2007 (Poulter, 2007) and by the time this paper is published the buzz will doubtless have moved on. Part of the purpose of such fashions may be groups’ positive desire to differentiate themselves from previous cohorts. This does not indicate profound differences in thinking, necessarily. Specifically it does not mean old technologies are abandoned. For example, use of email seems to be universal (Fox & Madden, 2007).

The digital native - digital immigrant divide is another dichotomy currently fashionable (Prensky, 2001a, 2001b, Update 2007, Digital natives, 2007). In this concept the digital native is habituated to "twitch-speed, multitasking, random-access, graphics-first, active, connected, fun, fantasy, quick-payoff world of their video games" (Prensky, 2001b). A particular feature relevant to learning is the digital natives' reduced ability to reflect. The argument is used to support the use of games in education. This is not a concept one can simply dismiss, but there is something unpleasant about the way this type of discourse plays on fear. In fact, the concept seems to mirror longstanding social concerns about the impact of TV on children's minds. Indeed, one of the main weaknesses of the digital native hypothesis as an argument is that it focuses on certain digital technologies to the exclusion of longer term trends, such as the impact of TV watching. Characteristics such as a preference for the visual over text, non-linear thinking and the desire for instant gratification are now being associated with the digital native (Update, 2007) but have been predicted for some time. The hypothesis also ignores the point that playing computer games is much more common among boys than girls. Are only boys digital natives, then?

All this acknowledged, and if the generational framework for thinking about age difference is simplistic, it may nevertheless usefully reinforce our sense of the need to inquire into the diversity of the student population. In fact, Oblinger and Frand both stress the way that multiple generations are now represented in the student population and this is a starting point for inquiring into such diversity. If we are more specific, age is probably an important variable in differences in communication technology including Internet use. This is indicated (for the United States) in the Pew Internet Surveys (Fox & Madden, 2006, p.3). Most of the statistics show gradations of difference not radical dichotomies between age groups. Age appears as an important factor in classifications of Information and Communication Technology use in the States (Horrigan, 2007) or "e-engagement" in the UK (spatial-literacy, 2007). Age is not necessarily the dominant variable, but commentators have found significant differences emerging that may be relevant to learning:

> There is also evidence of a significant difference in communications usage patterns between young adults and the general population: for example, 16-24 year olds spend on average 21 minutes more time online per week, send 42 more SMS text messages, but spend over seven hours less time watching television. (Ofcom, 2006)

Like many past generations "children in each of the past several decades have always been exposed to new technologies - and made emotional and rational tradeoffs among them" (Szeto, 2005). It is important to be precise here, however. Excited writing about Web2.0 tends to imply that it has been adopted most actively by "young people". Yet the most active in adopting Web2.0 technologies according to a 2007 Pew study, "the Omnivores", have a median age of 28 (Horrigan, 2007, p.6). The Spire project survey gives a different impression, though again it does not indicate marked generational differences (White, 2007). Interestingly, the 2005 Oxford Internet Survey actually found a small and declining number of people were trying to set up a web page (Dutton et al., 2005, p.4,6).

Setting aside the more millenarian writing about generational difference and on purely pragmatic grounds it seems important to systematically learn more about students existing knowledge and pattern of communication use. Doubly so, as in our case, for a module on communication.

3. The module: "Information and Communication Networks in Organizations"

Information and Communication Networks in Organizations is a level 1, second semester module that explores communication and collaboration technologies in organizational contexts, offering a significant element of practical hands-on experience combined with theory of communication and organizational change. The 40 plus students who take the module are single honours (BSc in Information Management) and dual honours (BA in Management and Information Management). The vast majority are 18 year olds just out of secondary education.

The module begins by analysing changing organizational structures and then focuses on a number of technologies, including instant messenger (IM), mobiles, email, web forums, blogs, wikis and web2.0. In the spirit of the University of Sheffield's stress on research led teaching there is an emphasis on theory and empirical evidence being combined with practical hands-on experience. Managerial aspects are addressed taking a socio-technical approach, with a stress on post-implementation issues.

Critically we argue that the Internet is increasingly a "sandbox" for the latest communication technologies, which once proven, are taken up by private corporations. Thus the Internet becomes the intranet, MyYahoo inspires the corporate portal. The importance of this transfer process brings students' own experience of Internet communication directly into play, even though the focus in the module is on organizational uses. Thinking through the implications of applying technologies they are using now in tomorrow's organizations mirrors the real world process of organizations needing to work out how to adopt technologies first seen on the Internet. Thus IBM are already marketing a product that draws on elements of social networking tools and social bookmarking (borrowed from Del.icio.us), as well as more familiar online community elements (Hamm, 2007). So Web2.0 technologies may be quite quickly adopted in organizational settings. This process potentially empowers the students by valuing their knowledge of the latest communication technologies. Certainly, we have anecdotal evidence that students' familiarity with the latest communication technologies will be valued by first employers. In the module we also try to build up general principles that can be used to apply web paradigms inside organizations. Naturally, students are particularly interested in research in mobile communication or IM because they themselves use it daily.

A second strand in the module is encouragement of the students to reflect more about their own personal learning and communication preferences. Practical sessions discuss learning styles, and this is assessed by a weekly, online learning log. Our premise was that students reflecting on their learning and communication within the module, and being more aware of their own

style/preferences would encourage a ‘deeper’ approach to learning (as conceptualized by Entwistle 1998) and hence greater understanding of organisational information and communication networks.

Experience of encouraging students to reflect upon their learning during this module suggested this was not a straightforward task. Students prioritise their time and balance their University commitments with social and other needs. Unless there is some element of compulsion, many students would delay recording any reflective thoughts until nearer the coursework ‘hand-in’ date. There is also a tendency among some students to ‘simply’ describe their learning experiences without engaging in any meaningful personal and academic reflection.

Our solution was to use one of the University’s Virtual Learning Environment (VLE) tools (WebCT Personal Journal) that enabled students to draft and post entries throughout the semester. These could be viewed and formatively commented upon by tutors, minimising the risk of students misunderstanding the coursework aims. The postings were ‘time-stamped’ by the VLE enabling us to know how regularly and frequently the students posted. As the regularity and frequency of their postings was a component of the final mark, it was hoped that would be sufficient motivation to take this aspect of the coursework seriously.

To introduce this strand of the coursework and for students to gain a better understanding of their own learning style, and the various key conceptions and debate surrounding learning styles (e.g. Coffield et al, 2004), a series of ‘practical’ sessions was planned. These sessions were also used as an opportunity to promote the reflective element in the Department’s framework for Personal Development Planning (PDP).

3.1. Our research

The purpose of the research reported here, therefore, was to collect some systematic data from students at the beginning of the module about their use of communication technologies. This would be used to help shape the module to better meet student need/ability and knowledge. We also planned to investigate

learning preferences and encourage students to be more reflective about their practices and preferences. Our research question in response to claimed generational changes was “to identify students’ communication practices, Web use and learning preferences” to shape the content and style of the teaching of the module. More specific objectives were, firstly, to gauge students’ familiarity and use with Web2.0 technologies. Secondly, we wished to explore their communication channel preferences. Thirdly we also were to investigate their learning styles.

4. Method

In undertaking the research the module teaching team worked closely with Stephen Tapril a research student making "An investigation into the impact of the Millennials Generation on academic library services and the skills of library staff". Together we designed a short questionnaire that students could be asked to fill in. It encompassed use of classic Web2.0 sites, general internet and mobile use and preferred learning styles. The full questionnaire is reproduced below as an appendix. Questions were derived from our own knowledge of the field, both of new technologies and characteristic issues, such as around addiction or willingness to meet people first encountered online in person.

The research was cleared with University of Sheffield ethics principles. Also, in administering the questionnaire it was emphasised to students that there was no requirement to participate. Submissions were anonymous. Students were asked to complete the questionnaire in the first practical and preliminary results were reported to them in the lecture in week two. 25 out of 45 registered students completed the survey. This response rate was probably influenced more by technical difficulties saving the file after download and attendance rates than a reluctance to participate in the research.

5. Survey results

5.1. Knowledge and use of Web2.0

The main question in the questionnaire asked students to say how frequently they used 13 resources or types of tool. If they reported that they had never heard of it an item was scored as 0, having heard of it but never used it 1, using it occasionally 2, weekly 3 and daily 4.

RESOURCE AWARENESS AND USE		
Resource	**Web Version**	**Mean Frequency of use**
Instant Messenger (MSN, AIM or similar)	Web 1.0	3.56
Social Networking (MySpace, Friendster, Facebook or similar)	Web 2.0	2.76
Youtube	Web 2.0	2.72
BBC News	Web 1.0	2.52
Wikipedia	Web 2.0	2.52
Ebay	Web 1.0	2.20
Forums (Yahoo Groups or similar)	Web 1.0	1.44
Voice over Internet (VoIP) (Skype or similar)	Web 1.0	1.40
Video Conferencing	Web 1.0	1.04
Photosharing (Flickr or similar)	Web 2.0	1.00
Blogging (Blogger or similar)	Web 2.0	1.00
Technorati	Web 2.0	0.08
Del.icio.us	Web 2.0	0.08

Table 1: resources ranked by recognition and frequency of use

Instant messaging stood out as a technology that many students were using daily. A group of other tools headed by the social networking sites were used on a weekly basis. Discussion with students suggested that Facebook was used much more than any other Social Networking site. Use of Skype and similar products was a little less than expected. Blogging on the other hand seemed much less important to this group of participants than the literature might suggest, and was apparently less frequently used than video conferencing (perhaps interpreted by the students as use of web cams, since none were likely to have used true video conferencing). Forums were also seemingly little used. The least recognised sites were Del.icio.us and Technocrati (which only

two participants had even heard of and none had used). It is possible that this lack of awareness simply reflected that Deli.icio.us itself is little used, despite its prominence in the news coverage of Web2.0, while other similar types of sites are used.

Thus as regards students' recognition and use of Web2.0 the results gave a mixed picture. While the highest rated resource – instant messaging software – could be considered a Web 1.0 application, the second and third rated resources were among the leading 'themes' of Web 2.0: social networking, and video content sharing. However, if Web 2.0 applications feature more prominently within the top five, four of the seven such sites identified for the survey came last. Photo sharing, blogging, bookmark sharing and a blog portal (Technorati) seemed little known, and less used than familiar Web1.0 applications such as BBC news. Broadly the findings mirror those of the Spire survey, though with a greater stress on IM and less on blogging (White, 2007). As in the Spire survey despite their frequent mention in studies of Web2.0, Del.icio.us and Flickr had relatively low visibility.

The survey included questions asking students which website they considered their favourite, and whether they owned a blog or website. The results can be tied in with the ranking above to develop a picture of whether the group preferred to consume content or create/share content online.

FAVOURITE WEBSITE		
Themed Category of Response	**Total Responses**	**Rank**
Content Sharing	6	1
Sports	5	2
Networking	4	3
No Reply	3	4
Google	3	5
BBC	3	6
Hotmail	1	7
EBay	1	8

Table 2: thematic breakdown of favourite websites
NB. One respondent replied twice

The majority of respondents gave as their favourite website or resource a site that could be seen as a content sharing site: that is, video sharing portals such as YouTube and Alluc.org. Sports websites followed in popularity. In particular, sports sites tended to relate to football clubs of which presumably respondents were fans. Social networking (sites such as MySpace and Facebook) were less mentioned, than might have been expected.

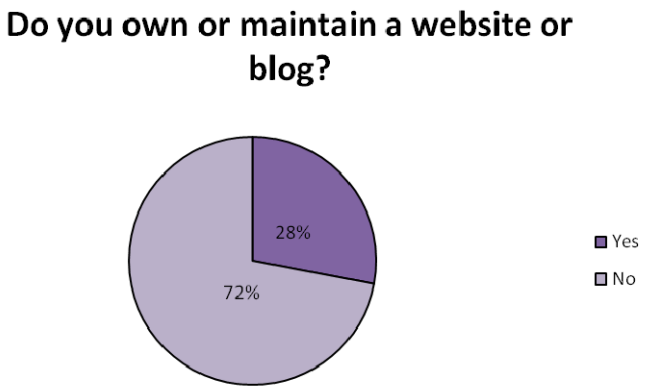


Figure 1: blog/website ownership

Of the total respondents less than one third, acknowledged owning or maintaining a blog or website. While Web 2.0 is based upon the premise of content sharing, it appears that in this small sample at least, individuals in this age group were satisfied with consuming content and did not participate in using technologies to create or share content.

5.2. Communication practices

The survey examined the use of a variety of methods of communication, including traditional telephone calls, in order to assess the extent to which there was a preference for online or offline communication. We were also interested in whether the advent of voice over IP (VoIP) and instant messaging displace traditional methods of communication.

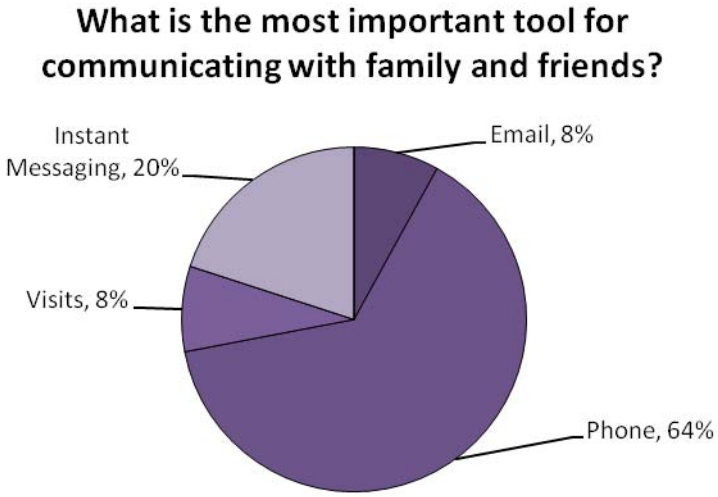


Figure 2: importance assigned to methods of communication

The results indicate that students still place emphasis on the telephone for communicating with family and friends. Instant messaging does seem to have made some in-road into traditional methods and was rated higher than physical face-to-face visits. The question did include blogs as an option but none of the respondents considered the method to be important. Interestingly, email was rated quite low in importance. It could be that 'real time' conversation is valued more by respondents, which would explain why telephone use and instant messaging are rated so highly.

Figure 3, reporting the response to Question 13, also illustrates that text messaging (SMS) is a common means by which the student group communicated: no respondent said they did not send any such messages. Most sent up to 5 messages, but the mean was 10 text messages per day.

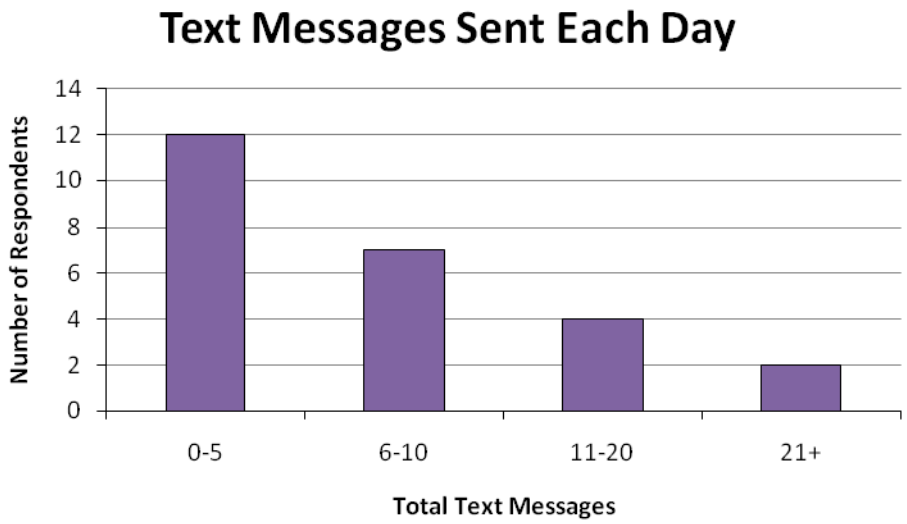


Figure 3: text message usage

The value of face-to-face contact is also illustrated in Figure 4 by data on the levels of webcam use among the sample. While the overall result was split 50/50 between those who use a webcam and those who do not, and while no respondent reported using a webcam daily, it is evident that this method of communication is still valued within the group. It could be the case that webcam use is tied to instant messaging and video conferencing in other areas of the survey.

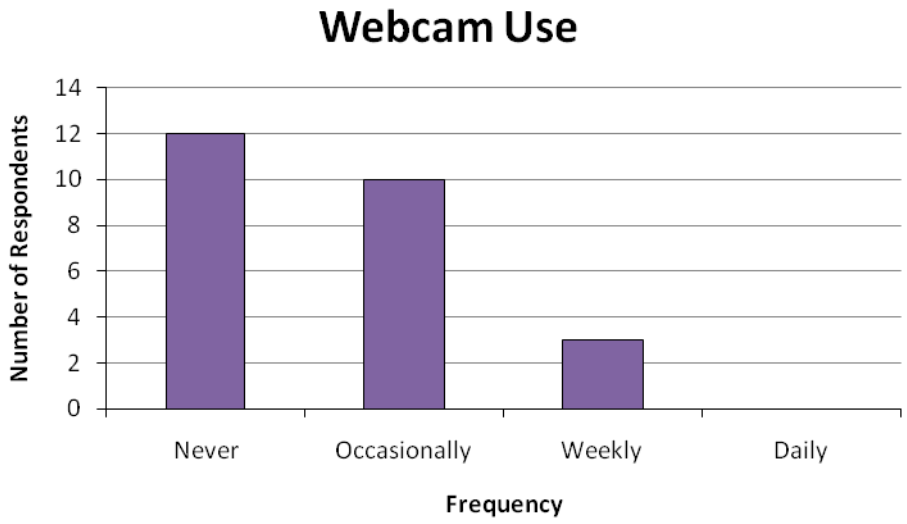


Figure 4: webcam usage

The low rating for email is still surprising, when it is considered that all respondents acknowledged frequently using e-mail accounts other than that provided by the university (Question 10). The majority (56%) reported having one additional account, while the remaining 44% reported having two. No respondent acknowledged running three or more additional email accounts.

Since the students reported the main reason for using the Internet was to "communicate with family and friends", (followed by "music" and "studying"), the relatively low importance assigned to email in the findings might be explained in an overall assessment of online versus offline communication methods. That is, the findings seem to suggest:

- The student group placed heavy emphasis on the Internet as a medium for communication
- Methods of communication are valued for being able to support 'real time' conversation, and for convenience, not in terms of 'offline'or 'online' preference

Respondents were also asked whether they maintained online friendships, and whether those friendships had extended to meeting people offline. The findings, illustrated by Figure 5, suggest that in fact most of the sample did not have relationships with someone they had first met online. This suggests that the majority of communication taking place online is with existing friends and relations. However, those that do maintain online friendships seem to exhibit enough trust in those relationships to warrant meeting people offline: 80% of respondents said they had met people from the Internet.

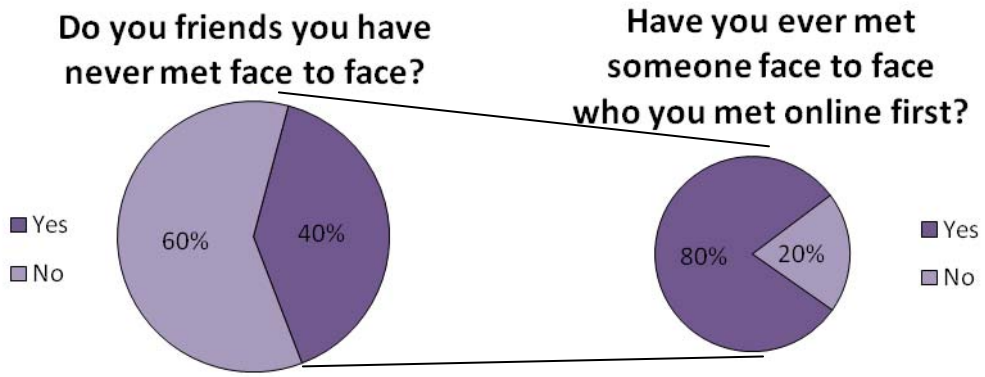
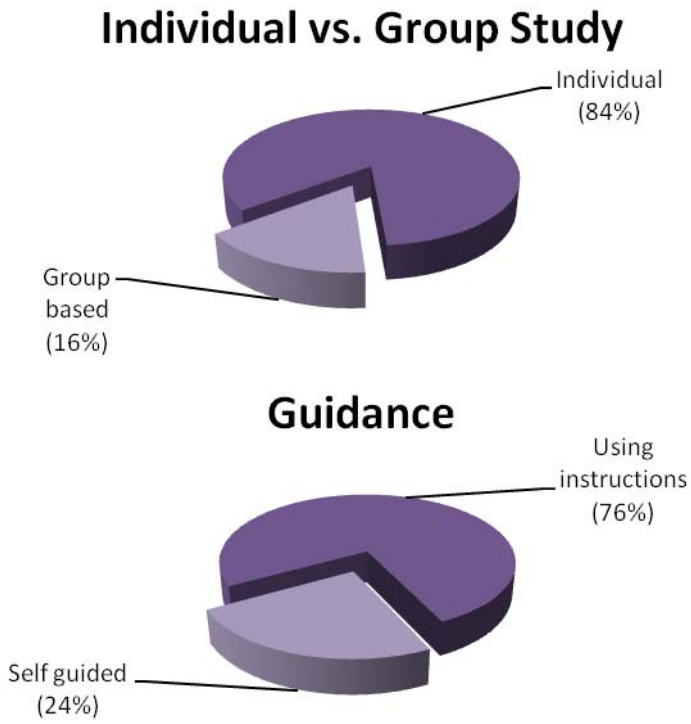


Figure 5: online relationships

5.3. Learning preferences

The final survey question asked students describe their learning preferences through responding to four groups of paired descriptors. The descriptors were kept as simple as possible in order that participants could relate to them more readily. The aim was to investigate the claim in the literature that this age group are collaborative and active learners.

The following figure 5 illustrates the findings.



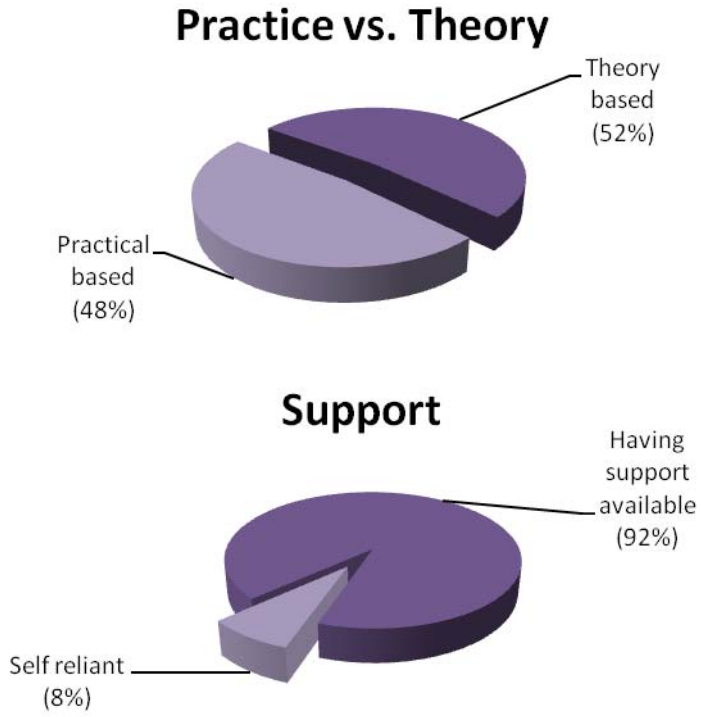


Figure 5: learning preferences by paired descriptors

While scarcely conclusive, these findings illustrate that the majority of the students preferred to work alone, with instructions and support available. Participants appeared to be evenly divided on the matter of preferring practical-based learning or theory-based learning. Quite apart from the small size of the sample, it is possible that there is a bias in the result because not all students attended the practicals or lectures where the questionnaire was distributed and so did not complete it, and students who saw themselves as more self-reliant would be more likely to be non-attendors. Yet the findings contrast quite sharply with the socially-oriented but independent learning preference claimed for this age group in the literature.

The primary conclusion to be drawn was that there was diversity of learning preferences which needed to be accomodated in the module.

5.4. Learning styles

In addition to reporting the survey results to them, at a later practical session we also asked students to complete a more standard learning style self

assessment. Kolb's (1999) Learning Style Inventory (LSI) is recognised to be a potentially useful tool for profiling a group of students (Coffield, 2004). Whilst the LSI is not a diagnostic tool, all students said that they recognised many of the characteristics in their individual profiles. The results are set out in Table 3.

Dominant learning style	Summary	Number of students	Percentage of students
Assimilative	Strengths lie in assimilating information to create theoretical models. More interested in ideas and theories than in their practical application.	4	16%
Divergent	Highly developed imagination and ability to analyse concrete situations from a variety of perspectives. Creative, good at generating alternative ideas and attending to feelings.	9	36%
Convergent	Greatest strength lies in the practical application of abstract ideas. Good at focusing on specific problems, particularly of a technical kind.	6	24%
Accomodative	Particular strength in carrying out tasks and becoming involved in new experiences. Flexible and adaptable to new circumstances. More likely to draw on personal intuition	6	24%

	than on analytical reasoning.		

Table 3: Student learning styles

The LSI results indicate no learning style is prevalent amongst the students. They do not suggest a convergence of learning style as hinted at by the generational change thesis.

As the survey and LSI were separate anonymous activities, individual student learning preferences could not be mapped to dominant learning styles and no statistical correlations can be drawn. However, individual students did reflect upon their results themselves:

> "*Interestingly, when I asked the other group members who preferred the IM* [Instant Messaging] *style of communication what their learning style was they all replied with 'assimilative', which I believe contrasts directly with my convergent approach.*"

Our approach was to stimulate students themselves to reflect more on their learning style and media use. We decided to encourage this through an assessed weekly learning journal. This would also give us further insight into the learning preferences of our students, with potential to fit the module to their apparent needs.

5.5. Learning Journal

Anecdotal evidence suggested that in previous years even the most conscientious of students made few reflective notes during the course of the module and the quality of their reflections was generally descriptive and evaluative. In this presentation of the module the use of a VLE to 'timestamp' students' postings throughout the module had a significant effect upon the regularity of the students' reflective thoughts. 42% (19/45) of students were judged to have reflected regularly (i.e. approximately once every two weeks).

Unfortunately, the remaining 58% of students were deemed to have not regularly posted to the VLE. Furthermore, 29% of students were judged to have been sufficiently critical, deeper and personal in their postings.

For those students who did engage with the activity there were signs of a sophisticated awareness of personal need, that could feed into module design. For example, this particularly personal and deep reflection:

> "*The main issue is that of my preference to work alone rather than in groups, I have always considered myself a team player and at first I was uncomfortable with the realisation that I am not. But; I have begun to realise that it is more my attitude to work that creates this dislike to group work than others attitude. Perhaps it isn't just that others can't be bothered so are happy to leave things to people like me; it is my controlling nature that 'leads' the way, whether others want me to or not! At best I am a natural leader, but at worst I am a control freak!*
>
> *I appreciate that we all learn in different ways, and that if the end results are good I don't suppose it matters how we get there. I appreciate that we all have different motivations and attitudes towards learning and that not all students will be as 'intense' about being at university as me. I suppose I realise that my 'controlling attitude' will be as annoying to others as 'laid back' attitude is to me…..*"

However, some students, occasionally by their own admission, continued to adopt a 'surface' (Entwistle, 1998) approach to their studies:

> "*From the model on approaches to studying I would think I was a surface learner … I learn what I need to know to get me a grade that is a pass nothing more nothing less. This is simply because* [during] *my earlier teaching I was barely taught …* [This] *meant that I had to find ways of getting to the next step. It worked at times where I passed the paper, sometimes by a great margin and others just barely.*"

Overall, there was a strong sense of diversity and the need to provide diverse routes into learning, rather than assuming all students have the same style.

5.6. Conclusions

In relation to our first research objective, to find out about patterns of Web2.0 use, there was quite a clear message that familiarity with Web2.0 sites was patchy, and even those that were known, were used as consumers not contributors. The finding for our second research objective was to emphasize the importance of IM, text messaging and communication through SN sites (probably Facebook). No clear pattern emerged in relation to the third objective, in the area of learning styles, but if anything these students were seeking guidance and support.

For our immediate purposes the response rate on the questionnaire was satisfactory, and subsequent experience suggested that the major findings for the group were representative. For the reader, the sample must be problematically small. However, the findings do challenge easy assumptions about trends in the use of Web2.0, for example. The general point is made that systematic investigation of the student skill set is of value in shaping learning content and support styles.

6. Practical implications

6.1. Teaching of Web2.0

Perhaps they should not have been, but several of the results of the study were unexpected to us. For example, we were surprised that many of the classic Web2.0 sites, such as Del.icio.us and Flickr, were unknown or at least little used. This could possibly have reflected our being behind the times in identifying the most “cool” sites. Like Poulter (2007) we were unfamiliar with Veoh which was mentioned frequently as a favourite site. The stress on IM and mobile was expected, but it was salutary to see the preference confirmed in hard statistics.

Despite students' relative lack of use of blogging, we retained the topic in the module as a technology with a momentum towards increased use in the corporate sector (e.g. Cass et al., 2005, Lewis Global Relations, 2007). We set up practicals to examine how both blogs and wikis worked behind the scenes. Talking to students in these sessions confirmed the hunch that Wikipedia is heavily used as a source, but few students contribute to the content or understood how it worked (cf White, 2007, p.12). Many "Web2.0" technologies do need to be taught to the digital generation.

In addition, in the final session of the module a substantial block of time was devoted to an exercise in which students were invited to explore how the application of principles of management taught in relation to online communities (need for rules and etiquette, moderation and facilitation and the importance of evaluation) might be applied to technologies largely untried in corporate sphere such as Youtube or Facebook. What would be the benefit of such tools to an organization? How would they be managed and their use evaluated?

It was a problem that there is as yet little literature specifically on these technologies - certainly little in organizational contexts and very little with any theoretical depth. So it was a problem to enable students to do academically valid (evidence based) writing about that material. To a certain extent media richness theory, social presence and disinhibition are broadly applicable. Enough survey and case study literature about corporate blogging and use of wikis was available by 2007. It probably was not a year earlier.

6.2. Communication channels

We did consider whether we should communicate with students through their favourite channels e.g. via Facebook rather than email. Several of the staff team did set up Facebook accounts, but it was felt that there was something slightly intrusive about participating very actively in a sphere where students manage their social lives (Shipman, 2007). After all the new technologies are used to complement rather than substitute for the use of other technologies. So the Facebook accounts were used passively, i.e. they were placed there to offer

a presence should a contact be initiated by a student, but we did not actively use it as a communication channel.

Again, the findings did suggest that real time support through IM might have been rather more effective than email for communication. The problem here was felt to be how this would fit into staff working patterns; indeed whether staff were likely to be available at the times students would be working. Frankly, another issue was staff preference for email and unfamiliarity with IM. Further thought needs to go into thinking through how to supply real time support. Email and WebCT were the main means of communication used in practice.

6.3. Learning journal

Our approach in relation to learning styles, recognizing the diversity in the group, was twofold. Firstly, we offered a diversity of learning experiences e.g. a rich mix of lectures, practicals, group work and online material. Much of the practical material could be conducted independently, since everything required was available via WebCT. We did consider offering “virtual practicals” where there was a requirement to complete the work but it could be done at any time. It could perhaps be supported using IM. In fact, the main obstacle here was the difficulty of implementing this within WebCT. Ultimately, however, the results of our surveys did suggest a desire for support and instruction.

More importantly, we tried to use the assessed reflective journal to stimulate students to themselves think harder about their own preferences and to empower them to make choices about how they managed their own learning within the resources made available in the module. This was not entirely successful. Whilst the individual reflective journal was a relative success in that there was a significant improvement in the regularity and the quality of reflections compared to previous years, we were still concerned that almost a third of the students failed this aspect of the coursework. Our conclusion is not that the approach is wrong, but to recognize how far such reflective work needs to be supported.

Implicit in our demand to complete a journal was a requirement to reflect at a personal level and to write in the first person. Writing reflectively is a specific style, which it is difficult to learn. Elsewhere, of course, we were also requiring writing in an academic style where the passive voice is usually preferred and the approach is to be critical and synthetic rather than reflective. Anecdotal evidence suggests that our students struggle to decide when and where it is acceptable to include their opinion their work. Furthermore, sharing reflections relies upon a particular form of trust between the tutor and the student. Students were unlikely to explore and reveal sensitive and deep issues with a tutor they know little or relate to in a particular way. Arguably, therefore there may be a correlation between the mark for this aspect of the coursework and the relationship between the tutor and student (if it could be measured). We conclude, therefore, that there is a conflict in our demands for this aspect of the coursework and that for a Level 1 undergraduate module we need to be more explicit about what is expected and simplify the requirements.

7. Conclusion

The results of the survey were from a tiny sample: one cohort in one department in one university in one country. We might had very different results (and drawn different conclusions) if we were teaching English, for example, because of a different pattern of preference about communicating using IT. However, we do think the results are interesting at a general level as undercutting simplistic thinking about how student knowledge and attitudes are changing.

Certainly our own patterns of communication technology use, as middle aged adults (Stephen excepted) are quite different from that of our students. We use email heavily, IM not at all. For all its virtues, Wikipedia is not terribly good for academic work. Blogs seem rather outmoded. We are only slowly coming to see a value in Youtube. Students stressed the importance of the fact of services like Youtube or Veoh being free, whereas we have money and less time. Nevertheless, their knowledge of Web2.0 technologies, for example, is quite

patchy and the theoretical constructs developed for CMC continue to be relevant.

Conducting the survey was a useful way to reflect about differences and contrasts in behaviour between ourselves and students and to explicitly discuss them within the module. It empowered the students to recognise their own expertise in certain technologies, some of which we frankly acknowledged our own ignorance of, but equally it identified gaps we needed actively to fill. It helped us to think through how we needed to support an arguably increasingly diverse student population, while avoiding the easy assumption that they are equally knowledgeable across all "new" technologies or wish to learn in a particular way. The introduction of a substantial level of reflective work into the module proved challenging but can be built on to encourage students to negotiate the learning experience that fits their needs.

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Appendix

Survey of communication technology use

We are conducting this questionnaire to chart your existing experience of communication technologies. We may also use the data for research purposes, where your responses will remain anonymous.

Q.1 *(tick the box that applies)*

	I have never heard of it	**I have heard of it but never used it**	**I use it occasionally**	**I use it weekly**	**I use it daily**
a. Del.icio.us					
b. Flickr or other photosharing web site					
c. ebay					
d. MySpace, Friendster, Facebook or similar service					
e. Yahoo groups or other forums					
f. Blogger or other blogging site					
g. Technorati					
h. Instant Messenger (MSN, AIM…)					
i. Video conferencing					
j. Wikipedia					
k. Skype (or other voice over IP phone)					
l. BBC news					
m. Youtube					

Q.2 What is your favourite web site?

_____

Q.3 Do you have friends you have never met face to face? Yes / No

Q.4 Have you ever met someone face to face who you first met online? Yes / No

Q.5 What is your main use of the web? *(circle one)*

Music / News / Studying / Contacting friends and family/ Games / Other (please specify):_____

Q.6 Do you have your own web site(s) or blog(s)? Yes / No

Q.7 Do you own a cameraphone? Yes / No

Q.8 Do you use a webcam? *(circle one)* Never / Occasionally / Weekly / Daily

Q.9 Which of the below is most important for keeping in contact with your parents / school friends?

Email / phone / visits / blog / IM / Other (*please specify*): _____

Q.10 Do you have other email accounts than university email?

Q.11 If YES to Q.10, how many others do you log on to every week?

Q.12 Have you ever felt that you might be addicted to the Internet?

Q.13 Roughly how many texts do you send each day?

Q.14 Which of the following do you feel best suits the way you generally prefer to study? (*choose between the two options*)

By yourself OR with friends

Using instructions OR exploring for yourself

Learning the theory OR doing practicals

Having support available OR relying on yourself

Q.15 Your age:

Q.16 Your gender: Female / Male

Q.17 Approximately how many hours do you spend per week on the Internet?

Q.18 Registration number

You do not have to participate in the survey. Non-participation will not affect assessment or your ability to complete the module. By completing this form you agree for the data to be used in the research.