

Chinese eLearners eLearning

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ABSTRACT

We describe the study practices and experiences of undergraduate students taking English Language in the format of an online distance learning programme. Thirty two second year students kept detailed diary records of their learning: describing the timing of each private study episode, as well as the resources they drew upon for that study. On a weekly basis, they recorded reflections regarding their recent progress: responding to both free-format and Likert-style prompts. Finally, these diary records furnished the grounding for a series of one-to-one interviews. It is shown how research material of this kind can usefully contribute to the design challenges of elearner support.

Keywords

Elearning, distance learning, China, diaries

INTRODUCTION

The term “learning” can be a generous one. That is, it can be applied very broadly to what human beings are always doing. So, we may quite sensibly claim that people are *constantly* “learning” - as they routinely interact with the world around them. Yet, surely our everyday use of this word is more circumspect. Everyday usage would demand that its reference was a little more focussed. So, if we casually ask someone “what did you learn today?”, we probably expect (i) that the answer will refer to an achievement that is novel (not the mere practice or consolidation of established understanding) and (ii) that the answer will identify some change in understanding that was the outcome of deliberate effort (some organised intention to learn). Through this everyday usage, it seems that we are circumscribing “learning” to mean deliberate acts of knowledge acquisition. In which case, perhaps we are thereby implicitly aligning “learning” to those other forms of activity that we normally describe as “working” (Goodyear, 1999, 2005)

Goodyear’s connection between learning and working may seem plausible once we invoke the mediating concept of “study” – as a rather particular form of goal-oriented personal activity. But, arguably, this alignment could then start to seem unhelpful. Certainly it will be if it merely reminds us of the manner in which work can be unwelcome, stressful, competitive, and so on. Yet, of course, work does not have to be experienced in those ways. So, aligning learning with working could be less unhelpful if it draws the attention of educational practitioners to challenges of sensitive environmental *design*. In fact, to be quite specific, there is an invitation here to see “learning science” as having an interesting connection with the science of Ergonomics (Goodyear, 1997).

Such a perspective invites educational practitioners to approach their interventions in a spirit of designing an environment-for-learning. That is, a complex of artefacts, tools, settings, and social rituals - all of which are well adapted to the needs and capabilities of learners. This is not to deny that teachers aspire to *change* people, to *shift* those “needs and capabilities”. For, in the end, they will certainly hope to have made individual learners more like geographers or biologists or historians (or whatever personal identity matches the discipline those learners are studying). However, the present (ergonomics-inspired) design perspective is focussed on where we *start* in this process. And where we start should, on this view, be more attentive to what students are actually doing in their study. Most particularly, we should understand what students chose to do in terms of their imported baggage of well-established social and cultural practices - an existing adaptation by learners to their (designed) world. In short, we want to know more about what students are actually doing. Moreover, we want a detailed but also frank exploration of this. For a more ergonomic perspective encourages us “to focus on the actuality of students’ work, and not on some idealised view of how that work should be carried out” (Goodyear, 1997).

This challenge is somewhat more tractable when the educational practitioner is functioning in an institutional setting – say a university campus. For an institution will need to define its identity as an institution and it will

do so in terms of the forms that can be taken by its material, technical and social structures. The learning practitioner has some influence in shaping these and, thus, some opportunity to think creatively about shaping a learning environment in ways that are well adapted to the “actuality of students’ work”.

However, the *elearning* practitioner is in a less fortunate position. There is no simple and singular “environment” in which the bulk of study will be carried out. The practitioner’s hope here must be that the learning resources over which they do have designing influence will be versatile. The hope is that these resources can interact with the learner’s personal environment (their leisure, domestic and employment worlds) such as to mediate productive forms of private study. Practitioners must hope that their designs “fit” in this sense. Yet there is surprisingly little research that addresses the reality of elearners’ study environments and what problems of fit might naturally arise.

Certainly there are self-report studies of elearners based, broadly, on survey and interview methodologies. However, these reports are concentrated into a “one-shot” and inherently retrospective occasion of reflection. It is important to consider other self-reporting methodologies that might guide designers. So, it is necessary to seek research instruments that might furnish a stronger sense of the elearners’ experience. In the present study we have explored a format for allowing learners comfortably to keep study records that were detailed and closely synchronous to the periods of study themselves. Our aim has been to equip learners with a simple instrument that would cultivate their attention towards personal study practices and experiences. The records thereby created should themselves inform the learning design process. But they would also provide a strong grounding for conducting a more traditional form of learner experience interview.

Existing survey of tertiary web-based language learners in China (Wang Tong, 2005) suggests that students are not impeded by technical inexperience or access but that they are still seeking more extensive learner support. Moreover, there remains among them a strong orientation to traditional learning media - especially, face to face tutorial contact and the use of print textbooks. The students participating in the present study had access to a particularly rich set of learning materials, including textbooks, regular face-to-face tutorials, interactive web-based resources, a CD collection of video and audio material, electronic discussion boards, tutor email, and an interactive webcast discussion arena. To investigate the study patterns coordinated by these resources, we invited participants to fill in a paper diary on (i) a daily basis, for which they logged study episodes and resources used and, (ii) a weekly summary basis, for which they reflected on aspects of their successes, impediments, and disappointments that week. We use these records here to comment on “the actuality of student work” and also as a set of variables that can be related to formal assessment outcomes of these students.

METHOD

We recruited 32 students from the second year of a three-year distance degree course in English Language. Study Centre tutorials were available along with printed texts but the course made intensive use of eLearning materials, including a locally-designed VLE platform. The average age of our students was 32 years (range 24-51) and they were all in full-time employment. Progress of these students was available as an aggregate of assessment results obtained so far from coursework and examination.

Following a period of pilot development, a paper diary instrument was designed to be distributed to each student. It comprised one double-sided sheet of A4 paper for each week of study. Students were asked to keep the diaries for at least one week, but for as long as they could manage across the 16 weeks of presenting two consecutive courses. One side of the sheet was a set of 7 rectangular 11 x 20 grids – one for each day of that week. Identified in the rows of each grid were 11 learning resources that the student might use that day (including “other”). Hours of the day were identified in the columns of each matrix. Students indicated the start and top times of their engagement with any or each of these resources. On the reverse side of the sheet there was space for answering 5 open-ended self-evaluation questions referring to perceived obstacles, affordances, successes and failures in that study period. An in-use example is shown in Figure 1.

The numbers in cells refer to the minutes passed that hour when an episode of private study started (or stopped). “Courseware” was an elaborated version of the textbook mounted online to enable more interactive opportunities. “CD-ROM” was a purchasable archive of language-relevant text, audio and video material. “Platform resource” was an archive of reference, glossary and assessment-related material. “Synchronous” was a set of interactive applications that allowed webcasting and other interactive language opportunities. “Forum” was a set of asynchronous text-based discussion arena. “Tape” and “Radio/TV” referred to English language listening media. “Tutor” to personal contact with tutor (including group tutorial). “Peer student” was contact with a fellow language student. Thus, the resource rows 2-6 are elearning resources in the sense that they depend upon computer-based delivery. These records were transcribed into a standard notation code and those records were organised by bespoke software into a format suitable for analysis in standard statistical packages.

There were also 11 questions regarding resources and perceived progress all of which invited students to respond through Likert-style agreement measures. Later an individual interview was carried out with students that was grounded in a derived profile of these records.

Monday	?	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	?
Textbook				30	30															
Courseware																				
CD-ROM																				
Platform resource																				
Synch (VOB, etc)																				
Forum																		20	1:15	
Tape																				
Eng. Radio / TV	6:30	30																		
Tutor																				
Peer student																				
???																				

Figure 1: Example day grid for study episode recording.

RESULTS

On average, students returned 8 weeks of diary records. Here we combine quantitative processing of the resource/time diary data with quantitative analysis of Likert-scale question responses and qualitative analysis of the textual comments given to open-ended prompts referring to weekly study patterns. We organise our presentation around a number of questions.

How much study and in what temporal pattern?

The average amount of time students dedicated to private study in a week was 17.6 hours. Whereas this is almost exactly the amount suggested by the course managers, it did vary greatly – from 3.2 hours to 38 hours. This broke down to an average of 1.2 study episodes per day (where an “episode” is defined as a period of study bounded by non-study periods of at least 30 minutes duration). The average length of a study episode was 94 minutes (varying for different learners from between 43 and 170 minutes). This study was distributed evenly across the week (Figure2) .

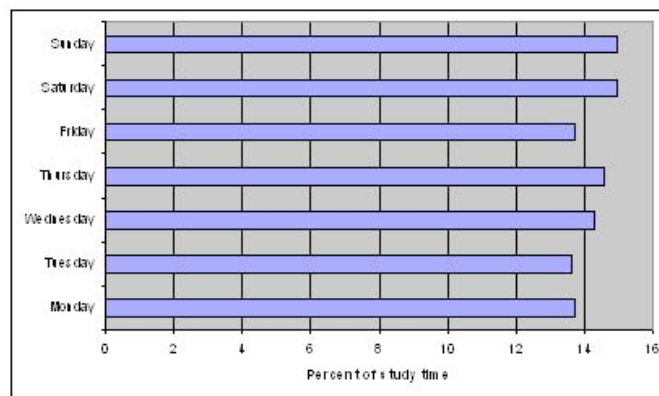


Figure 2: Distribution of private study by weekday

Moreover, Figure 3 shows that it was also distributed evenly across the day, although with an expected peak during the mid evening period (8-11 pm)

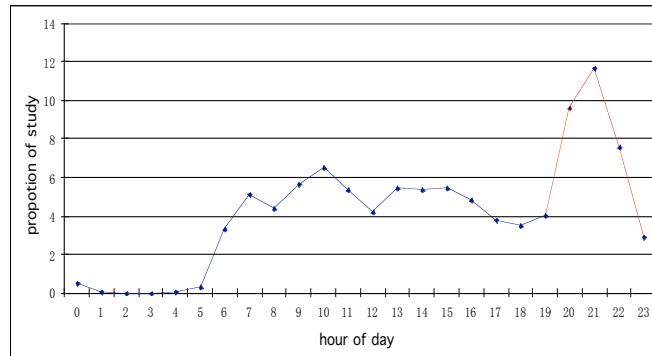


Figure 3: Distribution of private study by hour of day

What resources were used?

In a study session, students tended to make use of one and only one resource. Students had a strong dependence on the textbook and made rather modest use of electronic resources. These findings are shown in Figure 4.

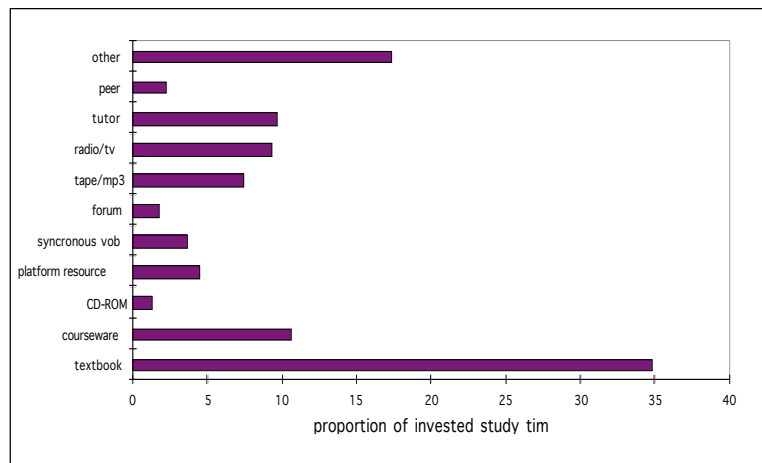


Figure 4: Distribution of study over available resources

Dependence on the textbook is apparent. But it is evident that students conceptualise a significant proportion of their formal study as resourced by material that is not coordinated by material from the official resource set. This usually forms of listening, speaking or writing exercise organised around improvised social or medial opportunities.

How is study time and resource linked to achievement?

All quantitative measures (study time, resource use and Likert responses to progress questions) were correlated with assessment status prior to monitoring period. The only significant relationship involved what appeared to be a balance between textbook use and courseware use (recall the latter was an elaborated and more interactive version of the former). High achieving students were likely to have a smaller proportion of study time devoted to the textbook ($r = -.4$) and a larger ($r = +.4$) devoted to the courseware ($p=0.024$ in each case).

How did participants experience the demands of study?

There was no sign that their experience of study shifted across the period of record keeping. Responses to the reflective questions tended to reflect a recurrent pattern of concern and a stable strategy for study. Students were clearly satisfied with the quality of learning resources supplied by the institution: this being the highest scoring Likert item. When considering the obstacles to their study, the most striking and repeated observations concerned the availability of sufficient time for their ambitions. Usually this was a matter of simply needing more. Although no students ever agreed with a statement that queried if they “managed their time well”. It was

unusual for students to blame personal failings other than poor time management (although a small number occasionally invoked notions of being “lazy”). No students blamed any feature of the course design itself. Their reflections on the nature of their study difficulties were likely to be very general: invoking difficulties in remembering vocabulary. The most frequently cited source of satisfaction and personal progress concerned successes arising from finding conversational partners or finding forms of audio-visual media (broadcast or recorded) that allowed access to authentic English speech. Many students indicated ingenuity in finding openings in their work schedule into which periods of study might be squeezed. While many referred to workplace contexts in this manner, no students made any reference to aspects of the domestic world in relation to their efforts to study – although the greater concentration of their study time was, by implication, in the home.

DISCUSSION

Our first observation concerns the merit of these diary recording techniques as a practical basis for capturing learner study experience. It is not claimed that this design for reflection is trivially easy for learners. Many students intended to keep their diaries for longer than they did. Clearly there is an overhead attached to the work that this form of accounting demands. However, the format of the final instrument was transparent and economical, as well as affording easy coding of the data that arose from it. It is therefore offered here at least as a starting point for further research on the ecology of elearning (cf., Sivan, 2003). Further research would be welcome. While there are in the literature fine-grained studies of student workload (Certio and Levi, 1999, Kember, 2004, Lawless, 2000, Murray, Alderminam Copopola, Grol, Bouhuijs, and van der Vleuten, 2001), these are scarce and they have been limited to only short periods of recording.

At the outset we argued that this form of accounting should be an important resource for educational practitioners adopting a “design” orientation. In particular, we argued that the challenges of designing to accommodate the “actualities of student work” were particularly demanding – when the students were online distance learners. Therefore this discussion and conclusion should dwell on the sort of design lessons that can be learned from our (preliminary) analysis of these particular diary records.

The manner in which study is distributed in time (Figures 2 and 3) indicates just how far learning seeps into the daily routine of these students. Although a significant proportion of study is carried out in the time that students probably have more to themselves (evenings), it is also clear that the totality of a working day (and week) is recruited into possibilities for study. Of course, there are individual differences in these patterns. The point is not that each and every student works to the summary pattern illustrated by these Figures. The point is that designs for resourcing elearning study need to take into account that, in general, it is not concentrated within distinctive times (and, by implication perhaps, distinctive places). Instead, designer must think in terms of study opportunities that may arise in a wide range of times and spaces.

This observation needs to be made alongside our finding that the textbook proved by far the most popular form of study resource. One good reason for this arises from the versatility of the printed book medium. Through a number of concrete examples, students indicated an ingenuity in finding times to fit study into their working day – finishing work tasks prematurely, studying on bus journeys, during lunch breaks and even in the shower and toilet. Evidently, the traditional textbook is a study artefact that fits well into this roving mode of private study. It is small and portable and yet comprehensive. Moreover, if well written, it can be challengingly dialogic.

Yet the “courseware” that was available to these students as an online alternative to the textbook covered the same material. Also, it seemed much more interactive and engaging. Students who had been achieving well in assessment were students who tended to make more use of this courseware and were less dependent on the textbook. The implication for design is, therefore, to protect and promote this resource. Perhaps there is an opportunity here to depart from an exclusive orientation towards technology in the form of the desktop computer. If learners are to improvise occasions of learning throughout their daily routine, then they will benefit from small-scale and portable technologies to support their efforts.

In general, these findings concerning resource use are somewhat sobering. It is fair to say that the creative and financial effort invested in the four principle online resources is not matched with their significance to students – as judged by their study time allocation. Only around 20% of time dedicated to study involved interaction with online resources. On the other hand, the kind of experiences that these resources did offer were often well matched to the form of support that the learners declared they actually needed more of. In particular, these resources furnished dialog with tutors and listening/speaking/writing opportunities involving other learners (cf. Vinter, 2003). So how do we explain the scarce usage of such online resources? Arguably, one answer is that identified above – a need for more versatile delivery technologies and less desktop tyranny.

However, there is also an invitation to think more broadly about the design of interactive resources, whatever their delivery media. "VOB" is the most sophisticated of such interactive tools currently on offer to these students. Through webcasting (and background text chat) it creates a kind of discussion arena in which all learners can take active part, or simply listen in. While it received some praise (and no criticism) in diary commentary, it was mentioned surprisingly infrequently. This probably reflected the only occasional use that was made of it. On the other hand, constant reference was made to the positive experiences of listening to English language films or television and English language publications. Tools such as VOB are built upon a communication metaphor: that is, it exploits a design format that is intended to be already familiar to learners. In this VOB case, that format is, perhaps, the "round table debate". However, although *familiar*, this is not the sort of occasion that learners might take part in themselves very often, at least within their normal work and leisure routine. Perhaps the metaphor that might prove more engaging as a webcasting possibility is something drawing on the traditions of magazine and radio. These certainly *are* familiar formats. Perhaps, for instance, learners could be attracted into a format whereby they and their peers composed, edited and broadcast sound files that could be compiled into a form of learner-magazine-radio relating to their own community.

There is no great authority in our data for this particular suggestion. However, it does illustrate a line of thinking that can be triggered by a more ergonomic orientation to educational design. Moreover, this example is one that is derived from data we have collected: data that explores the actualities of what students do and what experience they bring to the context of learning. It therefore illustrates the process of design reasoning that is made possible.

Finally, we should note that none of our measures of time investment in learning correlated well with academic achievement (as gauged in course assessment). This echoes a finding reported by others (e.g. Kember, Jamieson, Pomfret and Wong, 1995). Students who were doing poorly were not doing so because they were not putting in the time. Thus the responsibilities of learner support are not (fortunately perhaps) responsibilities of goading learners into working longer hours, in this sense of time investment. Moreover, the self-report of these students did not suggest that any of them were overcome with the intellectual difficulty of the tasks and goals that the syllabus set. So the problem is not necessarily that the course is "too hard". However, these students often did report that they felt they had problems of managing or organising their time. If there is a viable challenge for designers arising from such reflections, it may be one of monitoring and negotiating the manner in which learners are planning and scheduling their own learning.

In sum, we have reported a method for readily capturing the practices and experiences of elearners in relation to their personal ecology and in relation to the provision of a range of institutional resources. Such records are a valuable basis for refining the design of learning environments. However they also furnish a firm grounding for the conduct of exploratory interviews with individual learners. Findings from such conversations will be reported in a subsequent paper.

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