

**A user survey
conducted at the medical library
of the
University of Limburg at Maastricht**

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Introduction

The University of Limburg (*Rijksuniversiteit Limburg = RU*) is the Netherlands' most recently founded university. The medical school (now *Faculteit der Geneeskunde = FdG*) was established in 1975, the health sciences faculty (*Faculteit der Gezondheids-wetenschappen = FdGW*) in 1980. The present medical library opened in June 1992 as part of the new university hospital (*Academisch Ziekenhuis Maastricht = AZM*) complex. It serves primarily the needs of the university, although access is permitted to non-university-affiliated personnel within the AZM. The hospital is situated in the eastern half of the city in a newly-developing commercial and industrial area with very few local amenities. It adjoins a busy dual carriageway and heavily-used railway line.

Throughout the university a relatively novel teaching approach is employed, known as problem-based learning (PBL, imported originally from McMaster University in Canada). The medical curriculum is a six-year programme. The first four years are devoted to understanding disease mechanisms, the final two years are focused on clinical training. The health sciences courses are of the normal four years' duration. A large number of specialisms are represented. Following a common first year (known as the *propaedeuse*) students divide into three streams: behavioural science, applied social science (which includes those who will ultimately specialise in nursing science, health policy and management, and health philosophy and ethics) and biological sciences. The implications of PBL for the library are discussed further below (p. 3).

The new library is situated within a semicircular building and occupies four floors (see plan appended). It occupies a thick arc around the outer edge; the core of the semicircle is occupied from the first floor up by a large snack bar/refectory. The two are separated by clear glass. The temperature and ventilation within the building are climate controlled. A closed stack, containing older monographs and all bound journal volumes previous to 1987, occupies the ground floor. The main part of the library is on the first floor, and contains the reference collection, printed bibliographies, CD-ROM terminals, loan book stock, current journals, and bound journals from 1987 onwards. OPAC terminals are situated here and on the floor above. The loans desk and information desk are situated centrally near the entrance and exit, with a photocopying area adjacent; neither is enclosed. The upper two floors are given over to a particular form of library provision which relates closely to the Maastricht version of PBL, known in Dutch as the *studielandschap*. (There is no satisfactory English translation of this term; the phrase usually given as the English equivalent, learning resource centre, is in ordinary usage merely a synonym for multi-media library and fails to convey the particular significance of the *studielandschap* within the Maastricht PBL system. I frequently found myself using in conversation the literal translation "study landscape"; the abbreviation SL is used in this report). It consists of 1) a separate reference collection of multiple copies of textbooks and other books mostly for undergraduate use, classified, like the stock in the main library, according to the LC system; 2) an audiovisual resource area (*AV-ruimte*), served by two specialist staff; 3) an anatomy area (*anatomie-ruimte*), where anatomical atlases and models are available; and 4) a computer-assisted learning area (*computerruimte*). (This is run by another specialist; although it is housed within the library, it is outside its administrative scope and is not considered further here.) The new library brought together resources which had previously been distributed between a number of sites. Health sciences material had been housed within what is now the Faculteiten 1 building at Peter Debyeplein opposite the hospital entrance, while the medical collection was held at the old university hospital site at St. Annadal. This itself represented an amalgamation of two earlier separate pre-clinical and clinical libraries. There was also, and still remains, a separate psychiatry library at the Vijverdal mental hospital. Some of the interdisciplinary departments, such as health economics and medical sociology, need to use material which is held at Bonnefonten, the other university library site in the centre of town (this can be reached within half an hour by bicycle, but is not convenient of access by car or by public transport).

There is no card catalogue; the entire university collection, apart from that of the Jesuit library, is catalogued online. The OPAC includes facilities for searching by subject keyword as well as by classification code; however there is no on-screen subject index and reference has to be made to folders (kept behind the reference desk) which provide references from keywords to subject codes. In addition the OPAC provides access to the *Regionale Catalogus Limburg* (covering libraries of other educational institutions in the area, also the Maastricht Stadsbibliotheek) and to the catalogues of other selected libraries, mostly university libraries. There are separate sections in the university catalogue for audiovisual materials, theses and sets of statutes (*wetsets*).

The library receives a budgetary allocation from the faculties for to cover all costs other than accommodation and staff. The total amount is indexed (albeit inadequately) from year to year to allow for inflation. Responsibility for book ordering is divided between the departments and the "WID" (academic/subject librarians) section of the library; each department is allowed to order twenty-five books a year from a total allocation of thirty, while WID orders the remaining five. Journal allocations, with a number of exceptions, are divided equally between the departments. There is no agreed written acquisitions policy.

The library has three CD-ROM terminals providing networked access to MEDLINE, Excerpta Medica, PsycLIT, ERIC, Current Contents, and Science Citation Index. These are heavily used during the academic year; a reservation system is in force. Tutorials for MEDLINE, PsycLiT and ERIC are available on these terminals but not elsewhere in the library (a floppy disc containing the MEDLINE tutorial can be purchased by students for £ 3,501).

A research network, MAASNET, was set up in 1992. Not all individual academics yet have it, and, for reasons of computer security (fears about the possibility of hacking into hospital records) it has not been made available to the clinical departments. It incorporates a number of powerful bibliographic facilities: in addition to the library OPAC, these include access to LC records and to a large numbers of European and North American library catalogues, with connections possible to a number of other services such as BLAISE-LINE. There is the possibility of CD-ROM network access being provided on the system in the near future.

Backaround

1) Librarv

The survey arose from a need felt by the senior librarians to monitor the actual use of the library and also the opinions and attitudes of library users after a year in the new premises, with a view to highlighting problems and improving services. The move had inevitably entailed considerable changes in staff structures and in patterns of service to users as well as in physical locations of facilities. Under the previous arrangements, while access to stock had been relatively problematic, the library staff, particularly in the clinical libraries, had felt able to keep in close contact with the needs of users. This situation was now felt to have been reversed; while access had greatly improved, informal contacts had sharply declined.

The deficiencies of the automated system present a difficulty in monitoring library use; it is not readily able to provide accurate statistics on current library membership by category of user, and monitoring the circulation of particular categories of stock or individual titles requires a great deal of complex and time-consuming manipulation. Statistics are maintained, however, on acquisitions, book loans, interlibrary loans, and stack requests, for each main site. The use of the studielandchap is also monitored by direct observation methods, and here a fall in levels of usage had been observed.

2) Problem-based learning

The essence of the problem-based learning approach (see above, p.1) is that "passive" forms of information transfer from teachers to students are kept to a minimum--hence, lectures are relatively little used--and that learning activities (i.e. the acquisition of basic- and clinical science knowledge and of problem-solving skills) are focused around particular clinical problems. The system is intended to integrate basic science with clinical knowledge and to develop the facility and motivation for "lifelong" learning, i.e. throughout a student's future professional career. In discussion of these problems in small twice-weekly tutorial groups, students identify "learning issues" for themselves. After studying the relevant literature they report on and discuss their findings. The groups are facilitated by a tutor, who may or may not be an expert on the subject-matter of the problems. Independent study and the need for co-operative work is emphasised. As will be seen, this has implications for the provision of study space and seating within the library. The basic unit of course structure is the six-week "block". Each block has a particular theme, such as chest pain, fatigue, blood loss etc. The blocks are grouped into general themes within each academic year. Appropriate practical work (skills training, laboratory sessions etc.) is integrated into the course. (1)

It is important to realise that there is no single entity called "problem-based learning". (A "taxonomy" of different forms of PBL is provided by Barrows: (2)). The form of PBL in use at Maastricht is relatively teacher-centred; it represents a substantial modification of the original McMaster system. The approach to literature use is highly prescriptive, particularly in the earlier stages of the syllabi. For each block, students are provided with a "block book", which generally contains an extensive reading list. (The existence of block books for two medical course units taught in English allowed me to examine these in detail.) For the health sciences students, collections of literature have been provided until recently (copies of journal articles, etc.) which students have had to photocopy for themselves; this is to save the time, wear and tear on bound journal volumes etc. The collections were formerly very comprehensive (up to 500 pp. of material); following a change in departmental policy (deriving from concern about possible "spoon-feeding" of the students) their size has now been considerably reduced, to around 75-100pp. Students' academic progress is evaluated primarily through MCQ tests. Relatively little written work is expected of students; medical students are not required to write papers other than for their research elective, while health sciences students are required to write one long essay annually only. (3)

Parallel to the teaching faculties, there exists within the university a large department of educational research and development (*onderwijsontwikkeling en onderwijsresearch = O & O*), which conducts an extensive programme of educational research as well as being involved in curriculum planning and evaluation. Certain members of this department have an intense interest in monitoring and investigating students' study behaviour, albeit from the perspective of educational psychology rather than of information studies. Some of their published articles, however, are highly relevant to this survey (see below, p. 4).

The *studielandschap* was mentioned above as an integral part of the Maastricht PBL system. In both medical and health sciences curricula the SL is seen as a collection of learning resources, available near student study areas and collocated and arranged in a manner that will stimulate critical study of the subject matter. The use of the LC classification in the SL functions as a form of introduction to the main library classification. In principle, considerable effort and energy is put into keeping SL resources current and well focused. Library policy regarding the SL is stated in a policy document (12). Each department has a member of staff who has specific responsibility for the SL; every two years they are supposed to weed outdated stock, with the assistance of the library staff, and also check on the condition and availability of books.

Because of budgetary constraints the library is not always able to purchase sufficient copies of a required book, or to replace old editions immediately. The two faculties differ somewhat in their policies of book selection for the SL. FdGW selects a core textbook for each block and expects the students to buy this; copies of the supplementary books are placed in the SL. In the health sciences curricula the SL is envisaged as a place where students look for additional information, differing perspectives etc. beyond the scope of the basic texts. The FdG, by contrast, envisages the SL as a resource area for all kinds of books, and sees one of its purposes as that of providing access to copies of basic textbooks for students to try out and compare before purchasing. Medical students are expected to use the SL, certainly in their early years, as a place to study, whereas for health sciences students the SL is seen more as a source of references. Since both groups of students use the same resources, these differences can lead to conflict over purchasing of texts, etc.

3) User education

Apart from a one-hour orientation session for students early in their first year, and one-hour classes for students on use of the CD-ROM (which are held once a week for small groups) there is no formalised user education provided by the library. (In addition, library staff will provide brief five-minute introductions to CD-ROM use for individuals). Also there is no written information available about the library other than basic information about services, opening hours etc. In view of the emphasis placed on user education within the libraries of Canadian and American medical schools employing PBL curricula, this was at first sight surprising, not to say anomalous. The perceived need or otherwise for more formalised or explicit user education emerged as an issue within the survey; see below, p.11-12).

4) Previous surveys and research

No previous general surveys of user behaviour or attitudes have been undertaken by the library itself; earlier investigations have focused on specific issues such as catalogue use and inter-library loan requests. In 1989 the two student societies, REFLEX (FdG) and AGORA (FdGW) carried out a questionnaire survey of student opinion about library stock and services using a Likert scale closed question format. The results of this survey were used by the senior library staff as aid to planning the library provision in the new premises. Some of the O & O studies have focused on aspects of library and literature use; notably Geerligs in 1990 carried out a detailed investigation of student use of the SL (4). More recently Dolmans (5) has investigated literature use as part of her study of how learning issues in PBL relate to actual student learning.

Scope

This survey aimed to be general in scope and to include i) the entire university-related user population; ii) potentially all aspects of user behaviour and opinion. (Obviously detail is sacrificed in such a general investigation.) I received an additional request to include in the second phase (see below, p.5) nursing students, i.e. from the (hospital based) diploma school of nursing based at Vijverdal, the "general" stream of which spends time at the AZM and is in a position to use the UB. The user groups to be surveyed thus included undergraduates in both faculties; research students; junior doctors (i.e. specialists in training; "residents" in American terminology); research staff; and lecturers. (Because all senior medical staff have some teaching role within the FdG, these latter are thereby automatically included.) Excluded from the second-phase questionnaire survey, but not from the in-library studies, would thus be hospital administrative, paramedical and nursing staff, and university secretarial and administrative staff. The results of the first phase only are included in the present report.

Literature review

A great deal has been published on the rationale for and methodology of user surveys and their relationship to the planning of library services (6). A number of significant studies have been published of user opinion and behaviour in academic libraries; there have been far fewer relating to medical libraries. (For medical libraries, there have been a number of important studies of closely related issues, such as user education (7) and information use by clinicians (8). In addition, there have been landmark studies of the theoretical problems of identifying user needs (9). I also drew on some of the literature on academic library marketing (10) and sociophysical aspects of library design (11). The literature on problem-based learning and libraries is relatively sparse, and tends to be very general in its approach (12). (Interestingly there appears to have been nothing published in English on the *studielandschap/learning* resource centre concept.) The following studies acted as quasi-models for the present one: in the medical context, Brember and Leggate (13), Port (14), Chitnik (15); in the academic context, Budd/DiCarlo (16), Selien/Jirouch (17) and Davis (18).

Methodology

Preliminary interviews were conducted with senior library staff and with learning resources committee representatives to clarify issues of concern and gather initial information. The bookshop manager, Peter Verheij, was also asked questions about student book purchasing habits and about the shop's relationships with the library and with lecturers.

I had a period of only three months available to me; from the beginning of June until the end of August, to carry out my work. The non-availability of students during most of this period constituted a major problem. Accordingly I resolved on a two-stage strategy: 1) to conduct an initial interview survey of faculty members and students, which would be both self-contained as a source of information and could be used as the basis for: 2) a major questionnaire survey and in-library study to be carried out in the autumn, well into the new academic year, by other members of the library staff. (The proposed questionnaires are presented elsewhere (19).

Students were contacted through officers of their respective societies; several were themselves post-holders within these. Student interviews were conducted with groups of between two and four students; this was felt to be easier from the point of view of the language (students could often prompt

one other with English vocabulary; there was usually one student whose English was more fluent than that of the others and who could act as spokesperson); it also made quickly accessible a range of experience and opinion. I was able to interview only one group of health sciences students, representing five of the specialisms within the faculty: health policy and management (*Beleid en beheer van gezondheidszorg = BB*), behavioural science/health (*Geestelijke gezondheidkunde = GGK*), movement sciences (*Bewegingswetenschappen = BGI*), nursing sciences (*Verplegingswetenschappen = VW*) and biological sciences (*Biologische gezondheidkunde = BGK*). My interview with the medical students had something of a preliminary character, and focused very much on problems of library layout, environment and facilities. For the health sciences students (whom I interviewed at a slightly later stage, as they went down later than their medical counterparts) a semi-structured format was used using a schedule. Students were asked about their study habits, their patterns of library use and their opinions of library services. The schedule was not adhered to rigidly, and the questions and emphasis changed somewhat during the period of the study, as issues emerged and were discussed with library staff and faculty members. This presents something of a problem in presenting the findings. The final version of it is appended; see page 20-21). Each group interview lasted about fifty minutes.

The faculty members were nearly all library contact persons for their respective departments. Twenty people were interviewed. The sample was not selected in an entirely scientific way (again, non-availability of potential respondents during the summer vacation was a problem). An attempt, however, was made to select a representative range of disciplines and departments within both faculties. I also interviewed the clinical co-ordinator, Professor Essed, and the chairman of the junior doctors' association, Dr. de Haan, with a view to identifying the opinions and priorities of this user group. Each interview, again, was conducted according to a schedule (appended, p. 22f.). Respondents were asked to rate teaching resource provision, clinical practice and research resource provision, and library services; they were also asked about their own role as contact persons, the use of other libraries by members of the their department, and their expectations of library use by students.

Results

1) Medical students

I interviewed together one second year and one third year student. Their emphasis in response to my very open-ended enquiries about the library was on the shortcomings of the building; they felt that the problems of the library as far as students were concerned lay primarily here rather than in the provision of stock or services. Their comparisons with conditions in the old building were unfavourable. In their view, the old building had been congenial; it had been possible to "behave naturally" there. This had been a function both of its general physical characteristics (as a brick building with windows that could be opened or closed) and its particular layout (different study rooms had led off a central corridor). In some of the study rooms talking had been permitted. One had not needed to go far to find a fellow student in order to discuss something; it had been possible to open windows and regulate the temperature, ventilation and external noise levels; moreover one could "establish territories" and enjoy a degree of privacy. It had also been possible (unofficially) to bring in and consume refreshments!

By contrast, they experienced the new building as constraining. In the SL, only very quiet conversation is permitted; they perceive, however, that considerable noise emanates from the information desks on the first and second floors, the loans desk and the photocopiers. They think this tends to lead to an escalation in the general noise level. They dislike the fact that a member of staff patrols the SL to keep the noise down; they have nicknamed him the "Stipo" (standing, presumably, for "*STudielandschap POLitie!*") While the study rooms can be used for talking, the ones with the two separate desks are in their view not suitable for this; also the room with the two small windows is not pleasant to work in. Although ventilation can be adjusted in these rooms, opening the air vents increases noise from the road and railway. Another aspect of the noise problem is that while one part of the first floor SL is typically quiet, another is typically noisy, and there is no partitioning between them.

These students also expressed dislike of the tinted glass in the second and third floor windows. They complained that the flickering of the fluorescent lights was unpleasant, and liable to induce migraines in some people. They had also experienced problems with furniture and layout. The study carrels they had found to be claustrophobic and too small for large-format medical textbooks; the desks upstairs next to the anatomy area were comfortable, but their lights were not working, hence they could not be

used at present; the small desks beside the shelves on the first floor afforded an unpleasant sensation of being in a goldfish bowl. They liked, however the armchairs in the current journal reading area (*leeshoek*) and the circular tables near the journals desk.

They highlighted the following layout problems: 1) medical dictionaries are kept near to the second floor catalogue terminals, too far away from the main medical SL area; ii) while it is convenient to work near these catalogue terminals, noise is generated in this area by activity at the reference desk, and particularly by the telephone; iii) the AV shelves should not be sited in a quiet study area (*stille zaal*), since students tend to make a lot of noise while selecting videos. One additional problem they mentioned was the front door, which they find stiff, awkward, and hard to negotiate when laden with books, files etc.; they saw it also as presenting a problem for disabled access.

According to these students, the loan book stock was much better than in the old library; they felt their colleagues appreciated the improved access and were borrowing more books than before. They also felt that the SL concept worked well in principle and was particularly useful in providing a means of evaluating textbooks for purchase. In their view, very short lists of recommended reading are a disincentive to wider searching; they also undermine the tutorial process by creating too much consensus on a topic. They did not feel that the retention of old editions of textbooks alongside new ones was a particular problem. They did mention, however, that for block 2.7, on ageing (which, incidentally, is taught in English) there were not enough copies of books. Journal holdings, they thought, were adequate for students' purposes. While they thought the stack service was efficient, they were aware of the deterioration in service relative to that in the old library (half an hour's wait, as compared with five minutes). They found book loan periods adequate, and were appreciative the relative leniency of the staff about overdue items. They thought the catalogue was user-friendly and that enough terminals were available. Staff attitudes were commended, particularly the helpfulness of staff at the second floor information desk.

Written information about the library was not an issue; they felt that it served a purely "talismanic" function as paper to collect, and was not consulted after the first visit. They had not experienced CD-ROM use or availability as a problem; indeed they saw it as being required only for research electives and not a high priority. Library orientation they felt was generally adequate, but that it should have stressed journals more, as these are unfamiliar from school. Their only other significant criticism was of the photocopying facilities; while the copiers are fast, they reduce only A3 to A4, whereas many journals are B4 format, and the resulting copies are small and tiring to read. They would like the facility for paying for photocopying via their Smartcards rather than having to pay f 5,- each time for a separate copy card. (Inevitably they had found it frustrating that, with photocopying charges formerly 3 ct. per page cheaper in the copy shop than in the library, much material could not be removed from the latter!)

2) Health sciences students

An interesting range of responses was seen from this group of students. The three streams differ widely from each other and from the medical students in terms of their information use.

A summary of total hours spent in academic work, book buying to date, and hours spent in the library per week is given below. One regrettable omission in my schedule of questions was an item about hours per week spent in paid employment; the GG students were the only group whom I asked about this.

	Total study hours per week	No. books bought to date	Hours spent in library per week
BB	20-25	1-4	1-3
BGK	20 excluding practicals	3-4	Approx. 5
GG	20-30 including practicals	10-20; 1 per block; others of interest	Approx. 5
VW	25	Not stated	8-10
BW	20	1 per block; some others	5

(One student reported working in a restaurant on two evenings a week, for a total of twelve hours; another had variable commitments, working in a restaurant on board a river boat both during the day and on some evenings, and as a cinema usherette on other evenings, for up to 20 hours per week!)

The general pattern appears to be that students are visiting the library during gaps in their timetable. Some have preferences for early morning, when the library is quiet, or the late afternoon, to ensure easier access to photocopiers. After classes is a typical time, as one might expect. While some have no particular preference for where they work, most feel more comfortable at home, even when the environment there is not particularly conducive to study. (Access to food and drink, being able to smoke, and having stationery, own books etc. to hand are factors here.) The overall preference appears to be to photocopy literature, particularly journal articles, for use at home; students will stay in the library only if photocopying is not practicable because of the amount of material. (The BW students, whom I asked specifically about this, reported spending between £5,- and £20,- per block on photocopying; this means up to 200 photocopied sheets!)

It is evident from these figures that only a relatively small proportion of total study time is being spent in the library. (With hindsight it would have been more useful to ask all the students also about time spent on independent study, i.e. outside tutorial groups, practicals etc.) Some of the FdGW students have heavy practical work commitments at certain times. Interestingly, they think of the medical students as using the SL far more than they do: "Oh, they *live* in the study landscape", was one typical comment. GG students buy the most books, and BB students the least. BGK students typically feel the need to buy only basic books, depending otherwise on review and journal literature; in this they resemble biological science undergraduates in a non-medical context.

The students were asked about their preferred place to work within the library and about their opinions of the library environment generally. These latter generally ranged from indifferent ("it's O.K.") to clearly hostile. The SL areas were typically described as too noisy (the noise being thought to emanate from the desks downstairs, or from other students) and too open (cf. the medical students, above, p. 8). Students complained of distractions from the refectory, from the anatomy area (which they felt should be closed off) and from traffic outside; another problem they seemed to have was of being too accessible to their friends! They also mentioned the lighting being inadequate and too harsh in tone, and inappropriate temperature regulation ("too cold in summer, too hot in winter" was one comment). The study rooms (*studiekamers*) were described as being inconvenient, too isolated, and too small; again, several complained about the tinted glass. Generally they complained of a lack of places in which they could talk about their work. They reported that the tables downstairs were often used for discussion of literature or for writing practical reports, as discussion was permitted there de facto: the policing of the SL to enforce silence was intensely disliked. Some students prefer the first floor carrels as a place to study, although they find this area noisy also. All generally like to work near the books on their subject.

Students were asked about the availability of books within the SL. Inevitably, many of them had experienced shortages of core texts at peak times. This had affected BGK students in particular; they reported, however, that there were usually acceptable alternatives available, such as "Darnell et al." instead of "Alberts". GG and VW students were generally satisfied with the level of

provision, whereas BW and BB students complained of shortages of books for certain blocks. In addition the BW students mentioned a tendency for the classification scheme to scatter books in certain areas, such as ergonomics.

Perceptions of the loan stock varied according to subject. Again, GG students were generally satisfied with provision, as was the VW student. BW students, while also feeling that stock is by and large adequate, also use other libraries and will travel considerable distances by train to use them. The BW students complained that the books were often obsolete, and were too heavy and cumbersome to carry home anyway! The BB students felt that there is too much pressure on the loan stock in their subject and that books are often not available when needed.

Students were generally satisfied with the journal provision within their subject, although the BB students would like to be able to propose new journal titles themselves directly to the library instead of via faculty members. GG and BGK students had both needed to read articles in journals that were not held by the library. They had used the inter-library loan service (IBL) to obtain these and had both been very satisfied with the prompt and efficient service they had received. They had particularly appreciated the fact that the material was sent to their homes rather than having to be collected! BB and GG students both felt the stack service was unsatisfactory; the former expressed a wish to have longer runs of bound journals upstairs.

All the students seem to have become comfortable very quickly with the OPAC after initial apprehension, having learned to use it by trial and error. The BGK students said they had found it hard to limit subject searches, and would have appreciated more "hands on" tuition. The BB students also said they felt that use of the catalogue had not been adequately taught. There was concern expressed, however, by all the students about CD-ROM use and instruction. (Significantly the GG students, both fourth years who professed themselves very happy with PsycLIT, had been taught to use it not by library staff but by friends! The behavioural science students have their own special programme of CD-ROM instruction, which was instituted at the special request of one of the lecturers; it is interesting that not all the students are availing themselves of this.) The other groups complained that the tuition they had received was too brief and had not taught search strategies properly; also that the pressure on terminals arising from the reservations procedure means that they cannot "play" with the system and discover it for themselves. The BB and BGK students seemed to have had (or knew of others who had had) "bad experiences", such as getting totally stuck, or generating excessively large search sets which they were unable to limit. While being aware of the potential usefulness of the CD-ROM, they were prepared to admit that they had not become confident or competent users. There was a general feeling, also, that having to book search times was a nuisance.

I asked the students' opinion of the present photocopying facilities. All agreed that enough machines were now available and that the new copiers were fast. The BB students complained about their inability to reduce the size of copies other than from A3 to A4. The BGK students reported damage to bound journals--with pages consequently being missing--caused by inappropriate copier design (the library does not have the type of copier on which a volume can be partially opened across one edge). The BW students expressed concern about possible retinal damage caused by flashes from the copiers when the lid cannot be closed properly.

Library documentation, together with user education, emerged as an issue for these students. The BB students described the library documentation as being poorly sited, boring, and stale: nothing new was ever available. (I did not pursue this issue with the other groups). They also criticised the initial library orientation for trying to provide too much information at once and not doing so adequately; they would have preferred to have a good self-instruction book-cum-library guide that they could have used to find information for themselves. The BGK students criticised it for being a) too short, and b) over-emphasising journal literature, which was not needed until much later in the course (cf. the medical students' view, above, p.7). The BW students suggested that it was not only inadequate in itself but given too late, four weeks after the course had started, by which time most students had been shown round the library by older students or explored it with their contemporaries. (They suggested that in future the library orientation should be better integrated with the programme of general introduction to the faculty.)(20)

The BW students felt it was rather unfair that some supervisors provided help with references and with literature searching for the annual long essay, whereas others did not. They felt, however, that providing library-sponsored instruction in literature searching might meet with rather a poor response, also that subject literature guides or search guides might not be very popular either.

The GG students felt that, while learning through one's own experience was necessary, more introduction to the literature of one's subject would be desirable. They did not think there was a particular problem with finding references for the essays, however.

A number of other issues were raised by the students. Two groups felt that having exhibitions on particular health issues would improve the library. One student wanted new acquisitions to be more prominently displayed. The BB students wanted the library to be open later in the evenings and throughout the weekend, as at Leiden and Groningen; the other groups were generally satisfied with the opening hours. Again this group, but not the others, complained about the attitudes and practices of staff; "anti-student", "too passive and negative", "point to resources rather than helping to find information", were comments here. Other groups reported finding staff generally polite and helpful, although one mental health student had been rather forcefully shooed out on one occasion for wearing a coat! Several students complained of the inconvenience of having to leave bags in downstairs lockers. The BW students (perhaps with professional awareness) mentioned the stiffness and awkwardness of the door.

3) Faculty members

The academic status of library contact persons varies; most are lecturers, some are research staff or research students. The extent of their teaching commitments varies widely. Respondents were asked about their library contact role and how satisfactory they felt this was. Characteristically they described themselves as "not very active" in relation to the library. Most of them have the role of soliciting book recommendations from their colleagues, of submitting them to the library, and of monitoring their acquisition. Most also consult with the relevant senior librarian about journal holdings allocated to the department. Some have a role in looking after their departmental library resources.

Respondents reported varying degrees of success in securing consensus among their colleagues about book orders; one lecturer (clinical genetics) reported having to do all the ordering himself. They generally liked the way in which the library sent on information from publishers about new titles; direct mail coverage by publishers was described as being very uneven. Most respondents described their relationship with the library as being satisfactory, though toxicology/health hazards, epidemiology and dermatology wished to have more frequent discussion about journal holdings, and the first two of these departments expressed a wish for more feedback on the progress of books ordered; one lecturer reported using the library catalogue to monitor this. The lecturer from medical sociology felt that a weakness of the system was that although this department's book requirements overlapped with those of other faculties, there was no mechanism for consultation about book orders with his counterparts elsewhere. This respondent reported difficulty in keeping up with current publishing and selecting appropriate current stock given the lack of a major stockholding bookshop in Maastricht. Similar problems about lack of contact were reported by the representative from health education and promotion.

Respondents were asked to rate the teaching resources (SL books, loan stock, audiovisual materials) and the research and clinical practice resources (textbooks, monographs, journals, and bibliographies (both print and CD-ROM) within the library. Library contact persons were not often involved directly with the SL and so could not give a definitive opinion about it. However, the lecturer from toxicology/health hazards commented that there were insufficient copies of some texts; other members of staff highlighted shortages of familiar titles. Arrangements for weeding of obsolete stock seemed to differ widely in practice (cf. above, p.4): one respondent reported weeding once a year, while another said he had done it only once in the last ten years! Eight of the respondents who commented on book loan stocks stated that the holdings for their department were "developing well", "OK", "good", or "excellent". Two respondents (clinical neurophysiology and rehabilitation) said that the balance in their budget allocations between books and journals was wrong; in both cases the preference was for a substantial cut in book expenditure and an increase in the number of journals. For radiology, the problem was described as being one of rapid obsolescence as well as of problems with the classification scheme (cf. below, p. 14).

The medical computing lecturer described the book stock as being "seriously deficient", while the general medicine stock was described as being "somewhat lacking". Two respondents (clinical genetics, epidemiology) expressed concern about lack of awareness of or interest in new titles within their departments. There is apparently very little interest generally in the possibility of using new library books, other perhaps than very specialised works; academic staff are concerned primarily with establishing their own collections. The acquisitions list was criticised by one respondent (movement sciences) as a "waste of paper". It was too large to be scanned easily, and also inappropriately indexed; within his department it was hardly being looked at. He felt that smaller, departmental lists would be more useful. Clinical genetics also reported non-use of the acquisitions list.

By their own account, academic staff use the UB almost entirely for scanning current journals. Respondents were on the whole less satisfied with current journal provision. Of those who commented on journals, seven respondents only out of seventeen were prepared to offer comments including the word "good" or "OK": pathology, general practice, cardiology, pharmacology, health promotion and education, radiology, and thoracic medicine. Several mentioned a serious problem with the lack of flexibility in the system of budgeting and allocation of numbers of journals and titles; they would like the possibility of starting trial subscriptions to newly-published journals without discontinuing established titles (clinical neurophysiology, clinical genetics, and pharmacology). The negative comments received about journal stock included "not broad enough" (general medicine, toxicology), "not keeping up with current developments" (dermatology), "never enough" (paediatrics), "blatant omissions" (movement science), "seriously deficient" (rehabilitation, medical computing). Once again medical sociology reported a problem with the division of journals between faculties and distribution of literature between two sites; this is likely to be affecting other interdisciplinary departments (such as medical computing, medical law and health economics) also. One respondent (clinical genetics) said he felt that having too many journals reduced the time available for research: another (health promotion and education) mentioned the impossibility of scanning more than thirty journals per month. It was suggested (clinical genetics) that, despite the extent of departmental concern in general about journals, "60% of the material is never used", and that staff are not always aware of new journals; the same lecturer suggested that the library carry out an intensive monitoring of journal use. The general pattern appears to be that departments in core clinical areas, and/or those in which the journal literature is relatively stable, appear to be more satisfied, whereas newer departments, or those in which the literature is less well defined, are far less so.

Respondents were asked about the quality of provision of audiovisual materials for their department. The only comments made came from dermatology, cardiology, general practice and movement sciences.

Favourable comments were received from the two last of these; movement sciences however was concerned about non-use of A V material by students and expressed a wish to have it monitored. Problems of access to equipment that had been involved in changing formats were mentioned by dermatology.

The respondents were asked next about their opinions of library services such as online searching, current awareness, and inter-library loan. Very few departments use remote online searching; epidemiology and medical sociology were the only ones who reported making use of it for departmental research projects, (Remote online access to German databases is required by epidemiologists because of the relative paucity of Dutch literature on complementary medicine). In neither case was the quality of the service an issue. There appear to be very few subscribers to the current awareness service. One respondent (general medicine) said that he felt users had a marked preference for carrying out their own searches, and that in view of this the library should concentrate its efforts on training end-users to be more effective searchers, rather than in developing and marketing information services.

Respondents did not generally feel that CD-ROM provision was an issue. Several clinical departments have their own, with MEDLINE; they often subscribe also to Current Contents on diskette. (Interestingly, Excerpta Medica is used only by cardiologists, whose national organisation has adopted it.) One lecturer was not aware that the library had Current Contents on CD-ROM; his department had been subscribing to the hard copy version. Respondents in departments with access to MAASNET expressed avid interest in the possibility of network access to library CD-ROMs.

The only department to report use of general printed bibliographies (as distinct from specialised abstracting services) was general practice, which uses Index Medicus.

Respondents were generally very happy with the inter-library loan service; several mentioned that it had improved considerably. One respondent (dermatology) had been under the impression that the library would not handle international inter-library document requests, e.g. for Indian or Latin American journal articles.

Respondents were asked about their department's expectations of student library use. At this point in the interview I usually mentioned, by way of a starting point, the contrast I had observed between the emphasis on library user education and on training in medical information use in the Canadian and American literature on libraries and PBL (see above, p.6) and its absence in the Maastricht curricula. This produced an interesting range of replies. Respondents differed widely in their perception of the importance of information skills. Several medical lecturers felt that literature searching was not a priority within the medical curriculum, being required only for research electives; that the approach to use of sources, particularly in the first and second years, had inevitably to be prescriptive; and that the SL system in itself teaches effective use of the subject literature. The respondent from pharmacology stated that members of his department believed strongly that undergraduates should find things out in the library for themselves--while acknowledging that there could be information systems and sources of which people might remain unaware. Others, while fundamentally in agreement with this view, suggested that undergraduates needed better training in the use of the catalogue for subject searching (e.g. general medicine). One lecturer (pathology) suggested that, while undergraduates were adequately catered for in terms of information skills training, research students were not; he felt the library should be offering "advanced user education", including tuition in MEDLINE, the development of personal information systems/bibliographic systems, etc. A contrasting view was expressed that more attention should be given to information issues and library use within the curriculum of both faculties, particularly in the early stages. As one might expect, those lecturers who had themselves had courses in library use during their own university training were most convinced of its benefits. Concerns were expressed about the difficulty students sometimes have in selecting appropriate literature (medical sociology) and the apparent unwillingness of some students to abandon familiar textbooks and look beyond the prescribed reading list (general practice; also several O & O faculty members). Three respondents felt that having a general library guide and/or subject search guides would be a good idea; one in particular felt that resources such as these were essential in a situation in which contact time with students was as severely limited, as at RL.

I questioned respondents about a group of issues that can usefully be grouped under the heading "access". Chief among these was that of journals in the closed stacks. Few respondents did not think this was inconvenient to some degree; in these interviews it ranked with that of journal holdings as an issue of the greatest concern. In a few instances, the delay inherent in the present system had prevented access to information critical for an experiment in progress. Suggestions for improvements in the service were various; allowing stack requests to be placed by telephone; allowing staff direct access to the stacks; the introduction of an override facility for instant access; and providing a copy service for stack material were those most frequently mentioned. Most respondents indicated a preference for having the last 10 years, rather than 5 years, of bound volumes of journals available on open shelves; material within this time span is regularly needed by most disciplines, while documentation practices in some, such as clinical genetics and epidemiology, commonly refer to older material, extending as far back as the 1950s in some cases.

Four respondents expressed concern about the classification system. It is perceived as erratic (clinical genetics, general medicine), or as scattering material that should be collocated (radiology), or as not being specific enough (cardiology). One respondent felt that there was a need for more information about the classification scheme; he also wished to know who was doing the classification and how.

Most respondents were fairly satisfied with opening hours. Two would prefer the library to open at 8.30 a.m. rather than 9.00 a.m. One clinical respondent (pathology) felt that evening opening hours during the summer were inadequate. Another (paediatrics) wanted a system of twenty-four hour access as a means of searching urgently for clinical information.

I was surprised to hear strong views expressed about the administration of loans, recalls and reservations. Two respondents said that the library was too lenient with students about overdue books, and should not be spending money on issuing reminders.

Only the preclinical respondents, and epidemiology on an experimental basis, had access to MAASNET. Those who had it were enthusiastic about its potential, and felt that it represented a major enhancement of library service. One reported using it regularly for access to the Koninklijke Bibliotheek, other Dutch libraries, and the OPAC. Another, however, thought that access to resources such as the LC catalogue could lead to "information overload", and was potentially addictive! One lecturer expressed an interest in developing "own use of the library" features on the OPAC, such as automated reservations as well as renewals. It was suggested to me that MAASNET be "promoted" again via university newsletters etc. As stated earlier, strong interest was also expressed in the possibility of CD-ROM access on the system.

Respondents were asked about staff attitude and the quality of information provided by staff. Most respondents who offered comments described the staff as being helpful, polite and conscientious. Significantly, however, there were some negative observations. One respondent (movement sciences) said that staff attitudes, although now improved, had sometimes been patronising or hostile in the past. Another (health promotion and education) felt that the increased concentration of library resources had led to a decline in personal service. "Staff are not very friendly; they just point to resources and don't help", was the comment made by the chairman of the residents' association. "Staff tend to expect people to know how to use the systems--too self- service-orientated", was another (clinical neurophysiology). Several people mentioned that staff were not always very approachable or easy to communicate with. One respondent suggested that problems in relating to library staff and securing help in finding information were more likely to affect research students and younger staff than undergraduates.

Respondents were asked their opinion of the library environment. Four respondents were generally positive. One (pathology) remarked that there was a lack of general open reading space on the first floor and too much activity around the journals. Four complained of excessive noise. Three complained of students monopolising the round tables on the first floor near the journals. The comments of one respondent may be paraphrased: "The library is a poor study environment; more closed spaces are needed in which the students can study quietly, Students should be encouraged to use the teaching rooms as study areas," The same lecturer also complained about a "goldfish bowl" effect when working at the small first floor tables; cf. above, p. 7).

Respondents were asked about the use of the libraries other than the university or departmental library. Only two (rehabilitation and epidemiology) mentioned using other libraries regularly. One reported using his contacts at other universities to obtain urgently required material. This situation probably owes a great deal to the relatively isolated position of Maastricht within the Netherlands; also, the small size of the country and the cohesion of its academic community means that many people have research contacts elsewhere.

One respondent (a Ph.D. student) offered an interesting comment about his colleagues' use of the library. He suggested that, for his colleagues at least, the information explosion itself was a barrier to library use; moreover that much journal scanning etc. could be classified (using health education terminology) as screening behaviour, that is, they hope *not* to find anything! He felt also that the amount of photocopying, by staff as well as students, reflected a psychological need to take something away.

A note on departmental libraries

Although this was not a primary concern of the survey, I asked respondents about the various departmental libraries I encountered, as they have a strong indirect effect upon the department's interaction with the UB. As a matter of policy, the UB does not support departmental libraries in any way. Departmental libraries vary considerably in size and scope; the largest, which tend to belong to the biggest or most prestigious clinical departments, may have substantial collections of textbooks, several journals (.core. and specialist), offprints of papers by members of the department, collections of grey literature, material from pharmaceutical companies, and a CD-ROM reader with MEDLINE. Reasons given for having established them vary: the convenience of having key information sources

close at hand; the need for access to clinical textbooks out of library hours; the desire to have specialist journals available which the library cannot afford. (Preferential rates for individual as against institutional journal subscriptions facilitate the latter trend). Those departments for which grey literature is important (such as epidemiology and health promotion/education) find it much easier to collect and classify it themselves (much of it is distributed free) rather than depending on the library. In addition to material bought from the departmental budget, these libraries typically include journals to which individual staff members have a subscription. Those departments which do not have a library as such often have informal arrangements for joint access to individual book and journal collections. It is worth mentioning that some departments, such as cardiology and epidemiology, are linked to specialist national information and documentation networks.

The impression given is one of uncoordinated, piecemeal provision and of a lack of awareness for the implications of this within the AZM as a whole. Some respondents expressed interest in the possibility of establishing a union catalogue of periodicals held within the departments, similar to the one maintained by the university hospital at the Vrije Universiteit van Amsterdam: this does not seem to be feasible, however, without a general "political will" for more coordination and coherence.

One senior librarian drew an appropriate analogy between private medicine and the (British) National Health Service; departments prefer not to rely on a service which is, as it were, "public" and under common ownership and control.

Conclusions

As expected, the quality of the library environment is one of the main concerns of all groups of users. The design and organisation of the library as a whole do not appear to be meeting students' needs or preferences, while students' behaviour is having something of an adverse impact on other readers. The PBL system requires cooperative work and discussion and evaluation of sources by students outside as well as within tutorial groups. Ideally they should have:

- 1) self-contained areas in the library where they can discuss their work
- 2) self-contained areas in the library within which they can study quietly in neither of which are they:
 - 1) too far removed from the books they need
 - 2) too isolated from each other
 - 3) placed in a setting which is claustrophobic.

Aside from students' preferences for bringing in coats, bags, coffee, food etc. (!) I believe that the failure to provide an environment that fulfils these criteria is the fundamental reason why they find the library uncongenial. As we have seen, they find the SL in particular too open, too noisy and too constraining. To some extent they are using the downstairs tables instead for discussion of work and writing up practical reports. Here they are taking up desk space intended for users of the main library for journal scanning, etc., and causing distractions.

Without totally impracticable wholesale structural alterations it is hard to know what to do to improve this situation, though a considerable reduction in noise level could probably be achieved by enclosing the photocopiers within a glass and metal frame, (as at St. George's Hospital, Tooting, London) without excessive expense. The photocopiers appear to be the main problem; it does not appear that undue noise is being generated by activity at the information and loans desks (Dutch medical students seem to be far less noisy than their British counterparts!), though people evidently need to raise their voices above the noise of the copiers. The telephone may also be contributing to the noise to some extent. My only suggestions would be to: 1) remove the existing carrel-type desks from the *stille zaal* on the third floor (which are hardly used), move in some large round tables, and designate the room instead as a "cooperative work area" in which conversation is officially permitted; 2) following an earlier suggestion, make the instruction rooms available to students for the same purpose; 3) remove the telephone from the *studielandschap* information desk, and equip the downstairs telephones with a quieter bell. It might be worthwhile to experiment with "self-policing" of the SL, (i.e. asking students to complain directly to one another about excessive noise) to see what effect this has on overall noise levels and on SL use, since it is possible that noise generation here is a self-limiting phenomenon.

In terms of resource provision and of library services, the medical students seemed to feel they are well catered for; their principal problem is with the library environment. The health sciences students experience similar problems with the library environment, but are more critical of both services and resources. They are a very diverse group whose information needs have more in common with those of non-medical undergraduates in biological and social sciences than with those of medical students. It seems possible that their particularly pattern of library use is being determined partly by "tribal" factors-- i.e. they perceive the library as being monopolised by medical students, which acts as a disincentive to them using it for study purposes.

One of my initial hypotheses was that the relatively little explicit attention given to user education might be having an adverse impact on library use by students. As my enquiries progressed, my question became one of whether or to what extent the inherent dynamic of the "directive" PBL approach is compensating for this. My provisional answer would be that, while students generally become efficient users of the literature of their subject, they do not necessarily become proficient literature *searchers* (Cf. 21). It appears also that they are not necessarily acquiring information *management skills* (e.g. of dealing with potential information overload, maintaining their own personal information systems etc.) either. (I had the impression that some lecturers are too "protective" regarding students' information searching; one could argue that for students to experience information overload directly for themselves, at least once in their careers, has considerable educational value!) Health sciences students are evidently having trouble with the CD-ROMs; it appears the library needs to re-examine its provision of CD-ROM tuition and user support for CD-ROM use. (Some immediate improvement could be secured by making brief, database-specific user guides available; PsycLIT in particular has an excellent guide card which is not currently accessible to students.)

In retrospect, it seems a pity that the pilot project on user education for health science students was discontinued; their information needs are more complex than those of medical students, and they do not appear to be as well served as the latter within the current system. In view of the large numbers of students involved, and also the nature of the problem-based curriculum, in which students develop an orientation towards discovering information for themselves, it would seem preferable to direct energies towards compiling literature/library search guides for the different subject areas, including information about the classification scheme, subject searching using the catalogue etc. (22). The recent initiative in providing sample personal bibliographic systems within the library is obviously meeting a need in providing for more advanced users. There is evidently some disagreement among the lectures themselves about the necessity for explicit attention to be paid to library and information issues within the curricula.

It appears also from comments made by faculty members that reference/information services, particularly to research staff and students and junior doctors need to be improved. Their remarks, e.g. about the lack of approachability of staff, reflect something of what I have myself observed in the library, that the atmosphere is impersonal and clinical. There seems to me to be a "nine to five attitude" on the part of some staff; a low level of job satisfaction which manifests itself in a lack of engagement and involvement. It is possible that a greater emphasis on reference work and "informal" user education would itself increase job satisfaction, through providing intellectual stimulus and more rewarding interpersonal contact; this would act also as an "antidote" to the monotony of clerical work, and perhaps serve to improve the general atmosphere.

Users are obviously concerned about access to stack material; this issue needs urgent attention. There are other changes that could be made to enhance the convenience of users and avoid unnecessary delays:

- 1) The provision of a bin for returned books--which could be deposited there without queueing;
- 2) The provision of a journal binding list for users to consult in the journals area.

The presentation of material in this library appears to me to be relatively poor. Documentation is poorly sited and uninteresting; new acquisitions are not publicised or displayed; no attempt is made to present information or library resources via exhibitions. There is never anything apparently new to hold the interest of the regular reader; the library always looks the same, and is hence perceived as sterile or "dead". Also, the reference collection is poorly sited, ill-defined and

poorly presented (cf. the clear labelling, prime site, and colour-coding etc. at St. George's Hospital library, Tooting.) Improvements here would undoubtedly reduce the number of enquiries of the "where is the English-Dutch dictionary?" type dealt with at the desks.

I am aware also of a relative lack of attention to publicity and public relations. The senior librarians appear to have contact with faculty members only through official channels, and have little or no informal interaction with them. More use, it seems, could be made of in-house publications to maintain the "public profile" of the library and to publicise its services. Generally the overall policy stance appears to be reactive and self-protective rather than proactive .

Outside the library itself, overall information provision within the faculties and the AZM is piecemeal and uncoordinated. Indications are that faculty members might welcome a UB initiative in the direction of greater coherence and formal organisation (see above, p. 15f.). Departmental libraries, for the reasons already stated, will not go away in a hurry.

It would be preferable in my view to understand the UB and the departmental libraries as having in principle complementary roles in the overall provision of medical information rather than as competing for resources. On this "model" there could be a role for departmental library contact persons in coordinating information provision for their department across the UB and their departmental collection. Library administrative operations are in many respects running at a high level of efficiency (e.g. the absence of a cataloguing backlog, the performance of the inter-library loans service); this is very much appreciated by users.

Particular issues for chase two of the survey

- 1) Correlations need to be established between time spent in the library, paid employment (duration, working hours etc.) and where living (with parents, in own accommodation, how far away etc.), as one would expect these factors to have a major effect on library use.
- 2) Photocopying emerged as an important issue during the interviews with students. It became evident that students are photocopying a great deal (up to four hundred pages of written material per block!) in preference to buying textbooks, borrowing loan stock or using SL books within the library for study purposes. It thus seems critical to find out what undergraduates are doing with this photocopied material, as well as (if possible) what is being copied.
- 3) The interviews with students do not indicate that they ascribe any particular significance to the SL as such, or make any conceptual distinction between the SL and the main part of the library. It seems important to try to establish the function within their own understanding of their learning process.

Other possible investigations for the library

- 1) Monitoring of journal use, both bound volumes and current issues. (This could be salutary for academic staff who are always "clamouring for more");
- 2) An investigation of the information-seeking skills of the clinical students, along the lines of DeRosa *et al.* (8). (I find it surprising that this has not been investigated before as part of the educational research/curriculum evaluation programme);
- 3) A questionnaire survey among departmental library contact persons of the state of departmental library provision: the compilation of an inventory of departmental journal holdings.

Appendix 1.

List of academic staff interviewed

Faculty of Medicine

Dermatology	R Hulsmans
Epidemiology	mw L Mordant
Genetics/Molecular and Cell Biology	G Hamers
General Practice	mw E Breevoort
General Medicine	B Wolffenbuttel
Paediatrics	J Schrande
Clinical Neurophysiology	F Spaans
Medical Sociology	J Joosten
Obstetrics/Gynaecology	G Essed
Pathology	M Daemen
Thoracic Medicine	G ten Velde
Diagnostic Radiology	E G de Haan (junior doctor)
Rehabilitation	mw E Terpstra

Faculty of Health Sciences

Movement Sciences	J Adam
Health Hazards/Toxicology	J van Maanen
Health Education/Promotion	T Lenderink
Medical Computing	G Groenenschild

I conducted preliminary interviews also with Frans Thors, Titus Geerligs, Willem de Grave, and Diana Dolmans. I have not included my numerous very informative and useful conversations with Jeroen ten Haaf on this list, since he is a member of the library staff as well as being a library contact person.

Appendix 2.

Student interview schedule (revised)

- 1) How many hours each week do you spend on academic work:
 - a) studying on your own?
 - b) at lectures?
 - c) in practicals?
- 2) Where do you usually prefer to work?
- 3) What are your book buying habits?
- 4) How much time each week on average do you spend in the library?
- 5) What times of day do you generally use the library?
- 6) Which is your preferred place to work within the library?
- 7) In the learning resource centre ("study landscape"), are books:
 - a) easy to find?
 - b) provided in adequate numbers per copy?
 - c) in good condition?
 - d) up to date?
 - e) in current editions?
- 8) In general do you find it easy to find the information you need?
 - a) within the "study landscape"?
 - b) within the main library?
- 9) In what ways do you use the "study landscape"?
- 10) How do you usually find out about relevant/useful sources?
- 11) What do you think of the library environment, as regards:
 - a) temperature?
 - b) air quality/ventilation
 - c) lighting?
 - d) in general?

12) What one thing would make using the library/"study landscape" more congenial to you as a study environment?

13) How would you rate the following within the library:

a) initial library orientation?

b) book holdings (loan stock)?

c) journal holdings?

d) stack service?

e) opening hours?

f) loan periods?

g) inter-library loan service?

h) catalogue?

i) staff attitude?

j) CD-ROM instruction?

k) CD-ROM availability?

l) photocopying facilities?

m) library documentation?

14) Have you any other comments about the library?

Appendix 3

Faculty interview schedule

Section 1): Resources

How would you rate the following:

a) Teaching resources

*Studielandschap*_book stock

Loan book stock

Audiovisual materials

(Journals)

b) Research/clinical practice resources

Reference collection

Loan book stock

Journals

Bibliographies--print

Bibliographies--CD-ROM

Section 2) Services/Access

What is your opinion of the following:

Online search service

Reference/information service

Inter-library loan service

Current awareness service

Stack service

Loans administration

Opening hours

Section 3) Miscellaneous

Please describe your own role as library contact person. Do you feel that your present contact with the library is satisfactory?

Is there a departmental library? If so, what does it contain? Who looks after it? If it has journals, are they titles which the library does not have/cannot afford?

Do members of your department use other libraries? If so, which? Is your department connected with any wider information system?

What is your opinion of the library environment?

What are your expectations of student library use?

Is your department connected to MAASNET? If so, what use are you making of its bibliographic facilities?

What would be your main priority in seeking to improve the library?

Notes

- 1) There is an extensive literature on problem-based learning. Among the more significant are Neufeld, V and Barrows, H.S. The McMaster philosophy. An approach to medical education. J. Med. Educ. 4.s. (1974) 1040-1050; Schmidt, H.G. Problem-based learning; rationale and description. Medical Education 1Z (1983) 11-16; Barrows, H.S. and Tamblyn, A.M. Problem-based learning: rationale and description. in Problem-based learning: an approach to medical education. New York: Springer, 1980; pp.1-18; Neame, A.L.B. Towards independent learning: curricular design for assisting students to learn how to learn. J. Med. Educ. 56 (1981) 886-893; Walton, H.J. and Matthews, M.B. Essentials of problem-based learning. Med. Educ. 23 (1989) 542-558. Albanese, M.A. and Mitchell, S. Problem-based learning: a review of literature on its outcomes and implementation issues. Acad. Med. 68 (1993) 52-81, is a useful synopsis. Descriptions of aspects of the Maastricht curriculum are given in Schmidt, H.G., Boshuizen H.P.A. and de Vries, M. Comparing problem-based with conventional education; a review of the University of Limburg Medical School experiment. Annals of Community-Oriented Education 5. (1992) 193-198; Majoer, G.D. Introspection at the Faculty of Medicine of the University of Limburg. loc. cit. pp. 199- 207; Greep, Jacobus M. Perspective of the Academic Hospital. Annals 3(II) S25-S31; Majoer, G.D. and Snellen-Balendong, H.A.M. Curriculum revision: renovation of an innovative approach. loc. cit. pp. S331-S336; Post, G.J., de Graaf, E. and Drop, M.J. Efficiency of a primary-care curriculum. Annals 1 (1988) 25-31; Verwijnen, M. et al. The evaluation system at the medical school of Maastricht. Assessment and Evaluation in Higher Education 1(3) (1982) 225-244.
- 2) Barrows, H.S. A taxonomy of problem-based learning methods. Med. Educ. 20 (1986) 481-486.
- 3) The health sciences curriculum is described by de Volder, M.L. and Thung, P.J., Implementing a problem-based curriculum: a new social health programme at the University of Limburg, the Netherlands. Onderzoek van Onderwijs 18 (1982).
- 4) Geerligs, T. Studielandenschap en studeergedrag van studenten in de FdGW (The learning resource centre and the study behaviour of health sciences students). Unpublished, 1990.
- 5) Dolmans, D.H.J.M. et al.. The relationship between student-generated learning issues and self-study in problem-based learning. Submitted for publication; Dolmans, D.H.J.M. and Schmidt, H.G. What drives the learning in problem-based education? Draft; not yet submitted for publication.
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21) Cf. Moore, op. cit. (note 7 above).

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