The Use of Technical Literature by Students

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1. Aim and Procedure

First of all I would like to tell you something about the aim and procedure of the inquiry into the use of professional literature held among technical students (in this case students of Electrical Engineering). What we tried to find out was how intensively the department library is used and what kind of literature is consulted most by students. The results of the inquiry might be used to improve the provision of literature.

The questions were formulated in co-operation with the Centre for Didactics and Education (see Appendix 1 for questionnaire). Owing to the assistance of a number of lecturers the questionnaires could be handed out during their lectures and the questions could be answered on the spot. That is why hardly anybody refused to co-operate and why also those students who otherwise would not be motivated to express their opinions could be reached. Consequently we cannot speak of a particular response to this inquiry, but rather of a representative average of students of Electrical Engineering. For, with a population of 510 students, 180 questionnaires were filled in.

The questionnaires were assorted according to the years of study (question 1). Besides, a number of questionnaires was filled in by students from other departments.

<table>
<thead>
<tr>
<th>Others</th>
<th>1st year students</th>
<th>2nd year students</th>
<th>3rd year students</th>
<th>4th year students</th>
<th>5th year students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>2</td>
<td>31</td>
<td>45</td>
<td>50</td>
</tr>
</tbody>
</table>

Table 1

The questionnaires handed in by 'students from other departments' and 'first year students' were excluded from further analysis because they could not give relevant information. Those handed in by senior students were subdivided according to the number of visits they paid to the Library of the Department of Electrical Engineering (question 3).

2. Results

Question 1: To which year of study do you belong? The answers have been tabulated above (Table 1).

Question 2: What is your final subject, if known?

<table>
<thead>
<tr>
<th></th>
<th>2nd year students</th>
<th>3rd year students</th>
<th>4th year students</th>
<th>5th year students</th>
</tr>
</thead>
<tbody>
<tr>
<td>participants</td>
<td>31</td>
<td>45</td>
<td>50</td>
<td>42</td>
</tr>
<tr>
<td>number of answers</td>
<td>0</td>
<td>19</td>
<td>24</td>
<td>33</td>
</tr>
<tr>
<td>% (percentages)</td>
<td>0</td>
<td>42</td>
<td>48</td>
<td>79</td>
</tr>
</tbody>
</table>

Table 2
The most remarkable conclusion that may be drawn from these figures is that only 79% of the fifth-year students (doctoral phase) should know what their final subject will be. As far as the use of professional literature is concerned this information is not analysed any further. Afterwards it was concluded that this question could have been omitted.

**Question 3:** How many times a year do you visit the Library of the Department of Electrical Engineering in order to consult or borrow professional literature?

In order to be able to interpret the results in a better way the figures obtained will be put in percentages.

<table>
<thead>
<tr>
<th>Year of Study</th>
<th>0-3</th>
<th>4-6</th>
<th>7-10</th>
<th>More than 10 times a year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd year</td>
<td>68</td>
<td>16</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>3rd year</td>
<td>40</td>
<td>29</td>
<td>2</td>
<td>29</td>
</tr>
<tr>
<td>4th year</td>
<td>40</td>
<td>16</td>
<td>12</td>
<td>32</td>
</tr>
<tr>
<td>5th year</td>
<td>7</td>
<td>21</td>
<td>17</td>
<td>55</td>
</tr>
</tbody>
</table>

**Table 3**

Figure 1 shows clearly that the number of visits paid to the Department Library increases as the students are more advanced.

**Question 4:** If you visit the library less than 4 times a year could you give any reasons why this is the case? (more than one answer is possible)

a. not necessary as far as my study is concerned
b. reading matter I am looking for is hard to find or not to be found at all
c. foreign language difficulties
d. .........................................................
e. .........................................................
It will be clear that this question had only to be answered by those students who rarely visited the department library. A number of possible answers was given beforehand, but other reasons could be given by the students themselves.

The whole group consisted of 62 persons. 50 of them did not think it necessary, which is 81%. 6 of them answered that the reading matter they were looking for was hard to find or that it was not to be found at all, which is 10%. According to 3 of them language difficulties were the main reason, which is 5%.

Other reasons given by the students were:

- The facilities offered by the library are unknown to me
- I do not have time to study additional reading matter
- I always visit the Central Library
- I have not been studying here for a very long time
- The reading matter offered by the Department Library is unfit for self-studying purposes
- Important books have often been borrowed
- I have sufficient literature at my direct disposal

From the answers it appears that most students did not think it necessary for their studies. As far as the library is concerned there is little to be done about this.

Problems regarding the use of the library can be solved by instructing the students at an early stage. In the meantime these problems have been dealt with, for nowadays students of Electrical Engineering get library instructions by the end of their second year of study. Language difficulties can only be solved by the students themselves. The other answers to this question did not offer us any starting-points from which the situation might be improved.

Question 5: How can the professional reading matter consulted by you at the present stage of your study be subdivided? (roughly estimated).

(The figures stand for percentages.)

<table>
<thead>
<tr>
<th></th>
<th>2nd year students</th>
<th>3rd year students</th>
<th>4th year students</th>
<th>5th year students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>16</td>
<td>27</td>
<td>23</td>
<td>32</td>
</tr>
<tr>
<td>Periodicals</td>
<td>7</td>
<td>13</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>Lecture notes</td>
<td>77</td>
<td>60</td>
<td>61</td>
<td>50</td>
</tr>
</tbody>
</table>

Table 4

From the answers it appears that the use of books and periodicals slightly increases during the course of the years of study, and that the use of lecture notes decreases. This was to be expected. It is rather remarkable, however, that even in the fifth year of study lecture notes should make up 50% of the reading matter consulted by students. Evidently students are very much attached to this kind of literature and they set a high value on it.
Question 6: If you have consulted books and/or periodicals, how did you get them (roughly estimated)?

a. Books

<table>
<thead>
<tr>
<th>Source of Books</th>
<th>2nd year students</th>
<th>3rd year students</th>
<th>4th year students</th>
<th>5th year students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Library</td>
<td>24</td>
<td>35</td>
<td>29</td>
<td>31</td>
</tr>
<tr>
<td>Library of the Department of Electr.</td>
<td>17</td>
<td>38</td>
<td>33</td>
<td>44</td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A staff member of the Department of</td>
<td>0</td>
<td>4</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Electr. Engineering</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have bought them myself</td>
<td>54</td>
<td>21</td>
<td>26</td>
<td>14</td>
</tr>
<tr>
<td>Other ways</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 5
The figures referring to the use of books from the Central Library hardly show any significant difference, whereas the figures referring to the number of times a book from the Department Library has been consulted slightly increase. The act of buying books oneself quickly decreases after the first years of study, although the percentage is still fairly reasonable. This is in contrast with what was to be expected and with those statements which deny that students buy professional literature.

b. Periodicals. (The figures stand for percentages.)

<table>
<thead>
<tr>
<th></th>
<th>2nd year students</th>
<th>3rd year students</th>
<th>4th year students</th>
<th>5th year students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Library</td>
<td>17</td>
<td>26</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>Library of the Department of Electr. Engineering</td>
<td>26</td>
<td>30</td>
<td>35</td>
<td>56</td>
</tr>
<tr>
<td>A staff-member of the Department of Electr. Engineering</td>
<td>0</td>
<td>9</td>
<td>35</td>
<td>17</td>
</tr>
<tr>
<td>I have bought them myself</td>
<td>57</td>
<td>35</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Other ways</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 6

![Figure 4](image)

This figure shows that the use of periodicals from the Central Library decreases in the course of years, whereas the use of the periodicals borrowed from the Department Library largely increases. The number of books bought by the students themselves decreases as the students make progress with their studies, but the percentage is still reasonable. A rather surprising conclusion which may be drawn from these figures is that periodicals or articles should be handed out to students through staff-members in the early years of study, whereas this percentage decreases as they are more advanced. It may further be observed that a rather large number of students did not answer these questions at all. The numbers and the percentages going with them you can see in the following table. (Table 7)
Table 7

<table>
<thead>
<tr>
<th>Year</th>
<th>2nd year students</th>
<th>3rd year students</th>
<th>4th year students</th>
<th>5th year students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants</td>
<td>31</td>
<td>45</td>
<td>50</td>
<td>42</td>
</tr>
<tr>
<td>No answers</td>
<td>11</td>
<td>23</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>%</td>
<td>35</td>
<td>51</td>
<td>34</td>
<td>26</td>
</tr>
</tbody>
</table>

Table 6 and figure 4 only refer to those students who answered these questions.

Question 7: Do you have any suggestions with respect to the Library of the Department of Electrical Engineering?

Quite some comment and criticism, including a number of good suggestions, came in here. The answers have been summarized according to the years of study used for further analysis. Between the brackets you will find the special librarian's comments.

**Second year:**
- Special books should be advertised (This I don't understand. Why?)
- Draw up and hand out a manual of instructions or explain orally how a book may be found. (The manual is freely available since January 1973. For students of Electrical Engineering instructions with respect to the use of the Library have been made obligatory at the end of their second year. Instructions during the first year of study are being discussed).
- The library should be arranged more conveniently. (In what respect?).
- Announce on the departments' notice boards which books are to be consulted for a particular subject. (These recommendations are made by the members of the staff and they have been included in the lecture notes. To me this seems to be sufficient, for this kind of literature is only needed by those students who take the subject).
- The facilities offered by the library are hardly used because they are unknown. (This is true; but we hope that the 'manual of instructions' and the 'instructions given to the second year students' will bring about a change for the better).
- The library ought to subscribe to 'Radio Electronica'. At present this periodical is only to be found at the Department of Mechanical Engineering. (This is not true. Ever since 1966 the Department of Electrical Engineering has been a subscriber to this periodical).

**Third year:**
- The library should buy more copies of books that are much consulted by students. (In principle the department libraries are specimen libraries, i.e. libraries where books can be consulted and not be borrowed, and they are therefore not allowed to buy more than one copy of a particular book. For the Central Library we try to buy more copies of books that are in great demand, which may then be borrowed from this library).
- The catalogues containing the titles and the authors of books, articles, etc. should be improved. (It is not clear to me how this could be done).
- The coding system should be simplified and the library should be arranged more conveniently. (The coding system was chosen before the foundation of the Enschede University of Technology and we have to stick to it now. The students have to take the trouble to get familiar with the system, but they are always welcome to ask the library personnel for explanations. It may further be observed that the arrangement of the library depends on the coding system that was chosen).

- A reference catalogue would be very handy. (This is true and meanwhile this suggestion is being dealt with too).

- A better check on the lending system is necessary; very often books have disappeared or they are seldom returned. Consequently some of the books cannot be consulted in time. (The lending system of the library of the Departments of Electrical Engineering and Technical Physics should agree. The user must either find the book or a card to which the lending coupon, which gives all information about the borrower and the dates of borrowing, is attached. Through the library assistant the book may be reserved or the borrower may be reminded).

Fourth year:

- A concise manual of instructions and a library guide at the entrance, which may be glanced at, would make things easier. (The manual is to be found at the entrance and it is also freely available through the library assistant).

- The numbers on the lists referring to the place where a particular book may be found should be arranged horizontally instead of vertically. (This suggestion will be dealt with as soon as a new version is made).

- A list of references would be desirable. (This suggestion was commented on before).

- Do not lend handbooks. (Handbooks have been declared 'non-lendable reading-matter' as much as possible and they have been provided with a pink label).

It should be possible to borrow books for a longer period. (In practice it is possible to keep a book for a period which is longer than the normal period of borrowing, unless the book has been reserved by somebody else).

- The department library should be transferred to the Central Library (This would be a change for the better as far as the concentration of books is concerned and it would also be easier for the students to find books, but the department libraries have been established for the use of the members of the staff and they ought to be housed as near to the users as possible).

- The department library should subscribe to a larger number of popular scientific periodicals. (Suggestions which may add to the collection are welcomed by the library assistant and the special librarian).

- Unless a book has been reserved the borrowing period should be prolonged to six months. After that reminding letters should be sent once a month. (As was said before, the department libraries are essentially specimen libraries and a long borrowing period would mean that a book or periodical cannot be consulted on the spot for a very long time).

Fifth year:

- The period during which a book may be borrowed should be prolonged on particular terms. (This suggestion has been dealt with before).
- More than one copy of the recommended reading matter should be bought. (This suggestion has been discussed before).

A list of references would be very handy. (This suggestion has also been commented on before).

- Abstracts Journals should be placed in a separate corner. (This has been realised by now).

- Lists of periodicals to be found elsewhere at the University would be useful. (They can either be found in the library or they can be consulted through the library assistant).

- The library should contain more literature concerned with direct application, e.g. reference books and data books. (As far as was necessary this suggestion has been dealt with. Besides, the Department of Electrical Engineering contains a section concerned with documentation which collects information about apparatus and components).

- A larger number of books should not be lent, especially those which have to be consulted during a particular lecture. (This suggestion has been mentioned before).

- Books which are to be found in the Library of the Department of Electrical Engineering and which are also present in the Central Library should be registered. (As soon as the catalogue has been automated it is possible to provide every department library with a catalogue containing the whole collection of books of the Enschede University of Technology).

- Preliminary examination papers should be filed and arranged more conveniently. (Until now the supervision of these papers has been left to the staff-members of the various departments).

- Books and periodicals should not be lent any longer. (Plans to that effect have not been considered. Only single issues cannot be borrowed any more).

- Books which can be borrowed permanently and for a very long time should be bought through the professorial chair. (This question is not clear to me).

- The collection of lecture notes should be kept up to date. (This is done as well as is possible).

- More copies of recommended reading matter should be bought. (This was mentioned before).

- Baccalaureate and doctoral theses should be brought up to date. (This is done as well as is possible. In the near future a separate catalogue for these theses will appear).

- The collection of books should be improved; too many books have been borrowed. (This suggestion has been commented on before).

- The distance between the bookshelves should be greater. (This is not possible for lack of space).

- The fact that periodicals have been taken away is felt as a hindrance. It happens that the very book or periodical one is looking for is missing. (This has been mentioned before).

- At least one copy of the literature recommended by staff-members should not be lent. (This suggestion has been dealt with before).

- Reintroduce the evening opening hours. (The department library is open until the
A list of translations of terms in frequent use at the Enschede University of Technology would be desirable. (This question is not clear to me).

3. Summary

This inquiry has given clear information about the use of professional literature by students of Electrical Engineering. We hope that some misunderstandings and prejudices have been put right again. In the future the results of the inquiry and the suggestions that have been put forward will be taken into account as much as possible. Maybe on a later date we can check whether changes and/or improvements with respect to the present situation have come about.
Appendix 1

Questionnaire used for the inquiry into the use of professional literature

1. To which year of study do you belong? .................................................................

2. What is your final subject, if known? .................................................................

3. How many times a year do you visit the Library of the Department of Electrical Engineering in order to consult or borrow professional literature?

<table>
<thead>
<tr>
<th>Times a Year</th>
<th>0-3</th>
<th>4-6</th>
<th>7-10</th>
<th>11 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. If you visit the library less than 4 times a year, could you give any reasons why this is the case? (more than one answer is possible)
   a. not necessary as far as my study is concerned
   b. reading matter I am looking for is hard to find or not to be found at all
   c. foreign language difficulties
   d. .................................................................................................
   e. .................................................................................................

5. How can the professional reading matter consulted by you at the present stage of your study be subdivided? (roughly estimated)
   Books ...%
   Periodicals ...%
   Lecture notes ...%

6. If you have consulted books and/or periodicals, how did you get them? (roughly estimated)
   a. Books:
      Central Library
      Library of the Department of Electrical Engineering
      Through a staff-member of the Department of Electrical Engineering
      I have bought them myself
      Other ways

   b. Periodicals:
      Central Library
      Library of the Department of Electrical Engineering
      Through a staff-member of the Department of Electrical Engineering
      I have bought them myself
      Other ways

7. Do you have any suggestions with respect to the Library of the Department of Electrical Engineering?