

Medical students prefer print textbooks for studying but value the e-books' search function and availability

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Abstract

Since a few years our library has mostly acquired journals only in electronic format, whereas medical textbooks are often provided in print and as e-books. In order to meet the students' current needs and to reasonably allocate financial means and efforts, we performed a survey about format preferences amongst medical students at the University of Zurich, Switzerland. 94 medical students returned our questionnaire in December 2018 (4.6% response rate). The survey showed that print books were used more often, especially for longer reading, but e-books were also commonly used. Perceived advantages of print books were the possibilities to mark text passages and better eye comfort. E-books were valued for their search function and availability.

Key words: *students, medical; textbook; libraries; surveys and questionnaires; Switzerland.*

Introduction

From a library's perspective, e-books consume more and more of the yearly budget, while print books use physical space, can only be used by one person at a time, and can get damaged or lost. But which format of textbooks do medical students prefer, who have to study large volumes of knowledge? The question of format preference has been investigated before – and will be asked again in the coming years, when students enter the universities who have not only grown up with computers but have also used them during their school years for learning. Basically, it can be answered by either comparing usage data of print and e-books (which will not be addressed in this article), or by means of a survey.

When readers (students or university staff) in previous studies were asked if they preferred print or e-book, the majority voted for print (on average 68% print vs 32% e-book in seven surveys; [1-7]). But when more choices for answers were provided than “print” or “e-book”, the answers varied widely. On average, 41% preferred print, 38% e-books and 26% had no preference or their preference depended on the situation [8-17]. Most of these surveys were done in the USA (seven surveys) and Asia (five surveys), and

their results may thus not be easily transferable to Europe.

Several surveys addressed perceived advantages and disadvantages of both formats. Two of these surveys especially addressed medical students [18, 19]. The German survey found that the most important features of e-books were: access from everywhere and anytime, being available for free, and the search function. However, a majority of students did not like reading from screens and missed the feel (haptics) of the print book [18]. Medical students in Ireland valued the lower costs of e-books, efficient studying, no weight issues and easy access. The majority still preferred print for the possibility to highlight and annotate and not having to look at a screen [19]. Now, in order to learn about our students' current needs and to reasonably allocate financial means and efforts, we performed a survey amongst medical students at the University of Zurich, Switzerland.

Method

Participants

This survey was aimed at all medical students of the University of Zurich, Switzerland (2031 bachelor and

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master students were enrolled at that time). Occasional answers by other library users were obtained but not analysed here.

Technical information

An anonymous questionnaire in German partially based on a survey in Germany [18] was designed. It comprised 15 closed and three open questions. No pretest with the target audience was performed, but feedback on understandability and scales was obtained from three co-workers.

The survey was open from 10th to 23rd December 2018 (during the learning period before the examinations in January). Questionnaires on paper were handed out at the library's information desk and were available in an area designated for medical students. An invitation and link to the online questionnaire (on SurveyMonkey) was distributed via the newsletter of the medical students' union of the University of Zurich. No follow-up invitation was sent.

Statistics

The scales of the closed questions were mostly ordinal (one question related to personal information was categorical, but only the category of medical student was analysed here). For testing differences between groups, the Mann-Whitney-U test was used and $p < 0.05$ considered statistically significant. Correlations were calculated according to Spearman. For statistical analyses, IBM SPSS version 24 was used. Answers to open questions were grouped and quantified (while

disadvantages of one format were counted as advantages of the other format). Single answers (translated to English) were used to illustrate a theme.

Results

111 questionnaires were returned, and 94 responders identified themselves as medical students. Their answers are presented in the following analysis. The response rate was 4.6%.

90% of the respondent medical students used lecture notes at least once a week or almost daily for studying, 69% used print books and 48% e-books (Table 1).

Thus, print books were used significantly more often

Answers	Print books	Lecture notes	E-books
(Almost) daily	32 (34.4%)	71 (76.3%)	18 (19.1%)
At least weekly	32 (34.4%)	13 (14.0%)	27 (28.7%)
At least monthly	18 (19.4%)	4 (4.3%)	24 (25.5%)
Less often	11 (11.8%)	5 (5.4%)	25 (26.6%)

Table 1. Answers to the question: "Which media do you use how often for studying?" ($n = 93$).

than e-books ($p = 0.001$). Students who physically visited the library more commonly, also used print books more often ($p = 0.005$).

Print and e-books were used in a different way for studying (Table 2): facts were looked up similarly in

Answers	Print books			E-books		
	I look up facts	I read single chapters or paragraphs	I read the whole book	I look up facts	I read single chapters or paragraphs	I read the whole book
(Almost) daily	22 (23.4%)	25 (26.6%)	3 (3.3%)	26 (28.0%)	9 (9.6%)	1 (1.1%)
At least weekly	34 (36.2%)	37 (39.4%)	2 (2.2%)	27 (29.0%)	24 (25.5%)	0 (0.0%)
At least monthly	26 (27.7%)	23 (24.5%)	4 (4.4%)	19 (20.4%)	31 (33.0%)	0 (0.0%)
Less often	12 (12.8%)	9 (9.6%)	81 (90.0%)	21 (22.6%)	30 (31.9%)	91 (98.9%)

Table 2. Answers to the question: "How do you use print / e-books for studying?" ($n = 94$).

print and e-books ($p = 0.722$). Books were almost never completely read, and if so, it happened in printed form ($p = 0.009$). Single chapters were also more often read in print books ($p < 0.001$).

Since we cannot provide print books for all medical student – we have maximally 15 items per edition – we asked the students if they would buy their own books. 46% or 3% said they would always or often buy print or e-books, respectively (Table 3).

For the above questions, correlations between all answers were calculated (results not shown).

Answers	Print books	E-books
(Almost) always	13 (13.8%)	0 (0.0%)
Often	30 (31.9%)	3 (3.2%)
Rarely	35 (37.2%)	11 (11.7%)
(Almost) never	16 (17.0%)	80 (85.1%)

Table 3. Answers to the question: “Do you buy the required books?” ($n = 94$).

Significant correlations were found between looking up facts, reading chapters or whole books in print and buying print books. Similarly, significant correlations came up between looking up facts or reading chapters in e-books and buying them. Thus, students had a preference for one or the other format.

This survey was conducted during the period when students prepared for examinations. Thus, 80% of medical students visited the library at least once a week, but only 13% used the website and 24% the online catalogue at least weekly (Table 4).

In two open questions, students were asked in which situations they preferred one or the other format and what advantages or disadvantages they experienced. Print books were rather used at home, at the library, and for reading or studying longer contents. Some students always preferred print: “When I have a print book at my disposal, I always take print. My feeling is that I can study better with print.” But there are situations where students use e-books: “When I need only small part of the book, or when no print copy is

Answers	Physical visit to the library	Website	Online catalogue
(Almost) daily	43 (46.2%)	2 (2.2%)	6 (6.5%)
At least weekly	31 (33.3%)	10 (10.8%)	16 (17.2%)
At least monthly	9 (9.7%)	47 (50.5%)	42 (45.2%)
Less often	10 (10.8%)	34 (36.6%)	29 (31.2%)

Table 4. Answers to the question: “How often do you use the main library?” ($n = 93$).

left.” E-books were preferred en route, when no print copy was available, to look up facts or read single chapters, or when print books were very large and heavy.

Taken together, the most commonly mentioned advantages of print books were: marking text passages (mentioned 27 times), less strenuous for the eyes (24), general comfort (22). Advantages of the e-books were: search function (45), weight (44), and (time- and location-independent) availability (37).

Discussion

Both formats, print and e-book, were commonly used according to the medical students who answered this survey. The response rate was rather low, however, results were in line with other surveys [6, 18], and usage data gave a similar picture (not presented here), although it is difficult to compare usage of print and e-books. Students preferred print for studying and reading longer texts, but liked e-books en route and for looking up facts. In contrast to other surveys, our students knew that we provide e-books and knew how to access them. This is in line with our daily experience, where other users but not medical students often ask how to find and access e-books.

Students mentioned that they liked to highlight text passages and write into books and therefore preferred print (although these features are also implemented in many e-books). Therefore, and because we cannot provide enough copies for all students, many students bought their own books. Interestingly, several of our students felt that they could remember better what they had read in print books. Studies on learning

effects are scarce, but one study found that those medical students had a tendency to score better in a test on basic pharmacology who had additionally studied with an e-book [20].

For medical libraries the results of the present survey mean that we should offer both formats whenever possible, and that print textbooks are still very important for medical students.

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