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General issues of online dictionary use

Abstract: The first international study (N=684) we conducted within our research project on online dictionary use included very general questions on that topic. In this chapter, we present the corresponding results on questions like the use of both printed and online dictionaries as well as on the types of dictionaries used, devices used to access online dictionaries and some information regarding the willingness to pay for premium content. The data collected by us, show that our respondents both use printed and online dictionaries and, according to their self-report, many different kinds of dictionaries. In this context, our results revealed some clear cultural differences: in German-speaking areas spelling dictionaries are more common than in other linguistic areas, where thesauruses are widespread. Only a minority of our respondents is willing to pay for premium content, but most of the respondents are prepared to accept advertising. Our results also demonstrate that our respondents mainly tend to use dictionaries on big-screen devices, e.g. desktop computers or laptops.

Keywords: small screen devices vs. big screen devices, printed vs. online dictionaries, types of dictionaries, payment models

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1 Introduction

As almost any other “interpersonal interaction” as Pasek & Krosnick call it, questionnaires “follow certain conversational standards” (Pasek & Krosnick 2010: 32). To avoid confusion and to motivate the respondents, it is important to start a questionnaire with simple questions that are easy to answer.

We followed this rule of thumb in our first online study by starting with some rather broad set of questions on the use of online dictionaries (cf. Kopleinig/Müller-Spitzer: Two international studies, this volume). This set of questions included questions on the use of both printed and online dictionaries as well as questions on the types of dictionaries used. Furthermore, in this contribution, we also present the results of the analysis of other related questions such as devices used to access online dictionaries and some questions regarding the willingness to pay for premium content.

It is important to emphasize that the presented results have to be read against the background of Lew's statement quoted in the introduction “[...] a rapidly growing area such as e-dictionaries, user research may find itself overtaking by events.” (Lew 2012: 343). This seems especially true for our questions on the devices used to access online dictionaries: we conducted our study in 2010 and since then a lot of things have changed, just think about the use of smartphones and tablets. Nevertheless, we believe it is worthwhile to present our results as some kind of historical snapshot, so other researchers interested in this field can compare their (up-to-date) results to the ones of us. Furthermore, in the context of our survey, it is possible to conduct subgroup analyses using the demographic data we collected of every respondent, so we can check whether there are any significant differences regarding age or professional background.

This contribution is structured as follows: in Section 2, we present the questions and results of the part of our survey focusing on the potential use of printed and online dictionaries, as well as the different kind of dictionaries used by our respondents. Section 3 summarizes the results on the willingness to pay for premium content, while Section 4 shows which devices are typically used to access online dictionary. This contribution ends with some concluding remarks (Section 5).

2 Printed vs. online dictionaries and kinds of dictionaries used

Most studies on the use of printed vs. electronic dictionaries focus on a comparison of both types of dictionaries related to certain types of tasks as the following quote indicates: “There is a body of studies comparing the effectiveness (and other usability aspects) of paper and electronic dictionaries” (Lew 2012: 343). An excellent summary of the results of those studies can be found in Dziemianko 2012. There are quite a few studies, for example, on the dictionary consultation process for decoding and encoding purposes (e.g., Nesi 2000 or Dziemianko 2010) or studies on so called comprehension scores in reading and understanding tasks, partly comparing PEDs and paper dictionaries (e.g., Osaki et al. 2003, Koyama and Takeuchi 2007). Another topic is the use of sign-posts compared to use of menus (cf. Lew and Tokarek 2010 and Tono 2011 as some kind of follow-up study, as well as Lew 2010, Nesi and Tan 2011). Dziemianko summarizes the results of the mentioned studies:

“Overall, signposts seem to more effective than menus in facilitating sense identification in paper dictionaries (Lew 2010b, Nesi and Tan 2011), but not in electronic applications (Tono 2011).” (Dziemianko 2012: 327)

A further topic is the speed of look-ups. According to Dziemianko (2012) different studies come to quite different results. However, one can cautiously draw the conclusion that electronic dictionaries (especially PEDs) facilitate the look up process more than their printed counterparts:

“Apparently, electronic dictionaries on hand-held devices make learners less wary of dictionary use. It is not clear whether robust-machine (stand-alone or networked) electronic dictionaries benefit users in the same way.” (Dziemianko 2012: 330)

In addition to that, there are a few studies that investigate the impact of paper vs. electronic dictionaries on word retention. The corresponding results can be found in Dziemianko 2012: 330-333.

In our first survey, we asked our respondents several questions on the use of both printed and online dictionaries. Since we mainly spread the invitations to participate by email and because it was an online study, we assumed that 1.) only a few respondents would indicate that they mainly or exclusively use printed dictionaries and 2.) that the age of those respondents tends to be above average, because the group of internet users is of course not representative for the whole population (cf. Diekmann 2010: 525-28). Nesi 2012: 366 (based on Boonmoh and Nesi 2008) reports the results of a sample consisting of different kinds of subjects. She shows that most of the surveyed Thai English lecturers own printed monolingual dictionaries, while only half of the respondents use online dictionaries.

In addition to that, we asked our respondents which kind of dictionaries they are using. With this question, we hoped to gain valuable insights into the practical use of dictionaries, for example when it comes to country-specific differences. In Germany, spelling dictionaries are the prototype of dictionary (Engelberg/Lemnitzer 2009: 47), while thesaurus and spelling dictionaries are very common in French and English speaking countries (cf. Hartmann 2006: 669-670). Furthermore, we asked our respondents if they have ever turned on a device (e. g. a computer) just to use an online dictionary and during which activities they normally use an online dictionary.

2.1 Results

Printed dictionaries

The vast majority of our respondents had already used a printed dictionary (99.7%). Virtually all of those participants had already used a monolingual printed dictionary (99.9%) and 98.5% had already opened a bilingual printed dictionary. If one

compares the different kinds of monolingual printed dictionaries between the selected survey languages (cf. Figure 1), one obtains considerable differences¹.

Online dictionaries

Almost every respondent had already used an online dictionary (97.8%). 96.6% had already used a bilingual online dictionary, and 88.0% had used a monolingual online dictionary. Again, comparisons of different kinds of monolingual online dictionaries between the selected survey languages yield significant differences: 67.2% of respondents who selected the German survey version used a general monolingual dictionary, whereas 92.3% of respondents who selected the English survey version used this type of dictionary. Dictionaries of synonyms are mentioned more often in the English survey version (65.8%) than in the German one (56.2%), too. For spelling dictionaries, the distribution is quite different: this type of dictionary is mentioned significantly more often in the German survey version (54.9%) compared with 19.9% in the English version (cf. Figure 2). Again, these figures confirm previous metalexicographical conjectures.

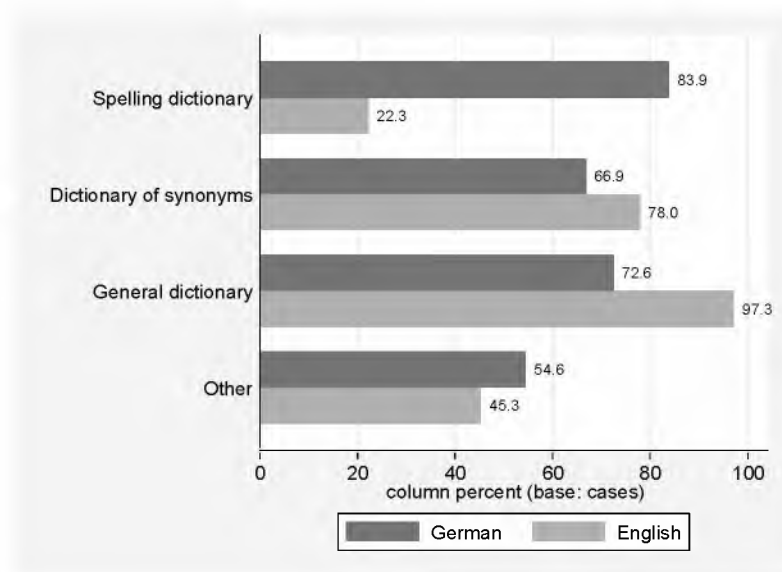


Fig. 1: Different printed dictionaries used as a function of the language version of the survey.

¹ Cf. the next section for details since those differences point in exactly the same direction as in the case of online dictionaries.

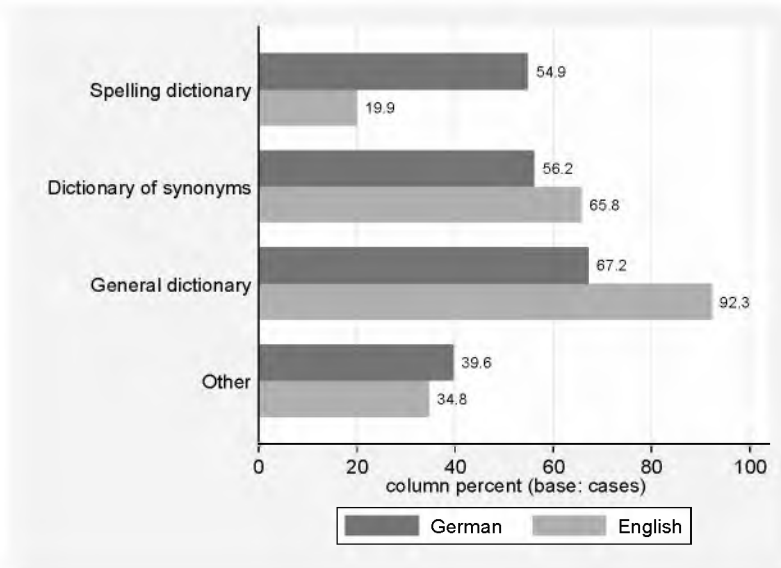


Fig. 2: Different online dictionaries used as a function of the language version of the survey.

When asked which they used more often, printed or online dictionaries, 47.7% of the respondents indicated that they mainly use online dictionaries. The second largest group (40.9%) selected ‘both printed dictionaries and online dictionaries’. Hence, most of the respondents are focusing on online dictionaries, yet just 3.0% state that they only used online dictionaries. As hypothesized, only a few respondents mainly (8.55%) or only (0.15%) use printed dictionaries. However, further analyses show that there is no meaningful connection between this distribution and the age of the respondent, in contrast to our expectations.

The majority of the respondents use online dictionaries both for private and for professional purposes (54.7%) or mainly for professional purposes (33.3%). Furthermore, online dictionaries are most often used (54.4%) for activities that are carried out frequently or that require active involvement (e. g. translating or writing). During activities that are carried out less frequently or that do not require active involvement (e. g. reading or browsing), online dictionaries are used substantially less frequently. 45.29% of the respondents told us that they have (a least once) already turned on a device (e. g. a computer) just to use an online dictionary.

2.2 Discussion

Almost half of our respondents indicate that they mainly use online dictionaries. 40.9% of the respondents use dictionaries on both mediums. However, we cannot

infer from this fact that the latter group uses printed and online dictionaries in equal shares, because it could be possible that respondents who mainly use online dictionaries, but use printed dictionaries only now and then, selected this option. What can be said in general is that many respondents seem to be still using printed dictionaries. This leaves room for further studies in this field since many publishing houses recently decided to stop publishing printed dictionaries (see below for details).

Regarding the different kinds of dictionaries, our results reveal the expected cultural differences: respondents, who selected the German version of the survey name spelling dictionaries more often than respondents who selected the English version, while the latter group chooses thesauruses and dictionaries of synonyms more often. Quite a few respondents selected the option “other dictionaries”, but mainly specified monolingual dictionaries of certain languages other than German/English or etymological dictionaries.

All in all, there is no clear trend to deduce from our data. Nevertheless, it is obvious that more and more general dictionaries are exclusively being prepared for the online medium. The renowned Macmillan publishing house is one important example illustrating this process: Macmillan decided to stop publishing printed dictionaries and shift all its resources to digital media. This means that even the famous OED will only be published digitally. Some experts may regret this decision, but eventually, this is a decision made by these users, as David Joffe argues in a discussion on the Euralex mailing list:²

“What I think some commenters may also perhaps be losing sight on here, is that ultimately, this (in effect) isn’t a decision made by publishers ... it’s a decision being made by dictionary users [...] dictionary users can ultimately tell which experience they overall prefer, and the bottom line is, if more and more actual dictionary end users are choosing to use online dictionaries rather than to buy paper dictionaries, then it is because they find it an overall preferable experience, not an overall worse experience.” (David Joffe, Mail to the Euralex mailing list, November 09, 2012)

Michael Rundell, Editor-in-Chief at Macmillan, puts it in a similar vein:

“[It is] better to embrace a future that will come anyway, than to hang grimly on to a way of doing things whose time is passing.” (Michael Rundell, Mail to the Euralex mailing list, 6 November, 2012).

² All quoted statements can be found online here: www.freelists.org/archive/euralex/11-2012 (last accessed 13 July 2013).

3 Questions of payment

With a few exceptions, the introduction of payment models for online dictionaries was no success. One of those exceptions is the OED, but resulting from the fact that, as Harris noted: “one is dealing not just with a dictionary but with a national institution” (Harris 1982: 935), this exception cannot act as a role model for other lexicographical projects. It seems that general dictionaries, no matter how well-known the publisher may be or how good the dictionary is, are not being successful when the users have to pay for them, mainly because free alternatives are always just “one click” away. One has to keep in mind that it can even have a very negative impact on the usage behavior if the users have to login (cf. Bank 2012: 357), so if the users are being charged for content they can get somewhere else for free, it is highly doubtful that the users will ever come back. In a mail-discussion on why Macmillan does not print dictionaries any more, José Aguirre suggests to “start charging libraries and end users for (renewable) subscription fees to the online service” (Mail to the Euralex, November 06, 2012). Here is what Michael Rundell replied:

“We'd be happy to do this if we could, but in reality no-one will pay for a general English dictionary (just as no-one will pay for a general online newspaper). In order to charge subscriptions, you have to provide premium content - in other words something which a segment of the market needs, but which goes beyond what people can easily find for free. Thus the OED, the Financial Times, and Nature Journal can charge users, and other dictionary publishers (Macmillan included) may in the future develop premium content for subscription users - but it is by no means certain this model will work.” (Michael Rundell, Mail to the Euralex mailing list, November 06, 2012)

There seem to be a few exceptions. But these are mainly customers who use dictionaries for professional purposes, e.g. translators, as the quote below shows.

“I am subscribed to several online dictionaries, and this is where the future of lexicography should be headed if you ask me as a translator. Graham P Oxtoby's amazing Comprehensive Dictionary of Industry & Technology, and Aart van den End's Juridisch-Economisch Lexicon & Onroerend Goed Lexicon can be seen as examples of how to successfully operate a dictionary in the digital age. They are full of great content, are updated daily, and you can email their authors term questions and will almost always receive an answer within 20 minutes. Another success story is the Oxford Dictionaries Pro (formerly Oxford *Dictionaries Online*). This is another dictionary I am more than happy to pay my annual subscription for, as it has become a one-stop shop for all of my English-language dictionary needs.” (Michael Beijer, Mail to the Euralex mailing list, November 09, 2012)

When we designed our survey back in 2010, things were not as clear as they are nowadays. At least some German dictionary publishers hoped to find a way to design models of payment for their online dictionary content. Therefore we incorporated two short questions into our questionnaire.

3.1 Method

The respondents of our second online study were asked the following question: “Please think of a high-quality online dictionary and the costs resulting from producing and maintaining this facility. Which of the following statements best reflects your opinion?”

3.2 Results

Figure 3 summarizes the result. Only a minority of our respondents is willing to pay for content (15.9%), so as expected, the vast majority of respondents are not prepared to pay for dictionary content. In a second question, we only asked the respondents who were willing to pay for content which way of payment they prefer. The result to this question is also quite clear: 58 persons prefer a flatrate model, while only 4 respondents want to separately pay per article.

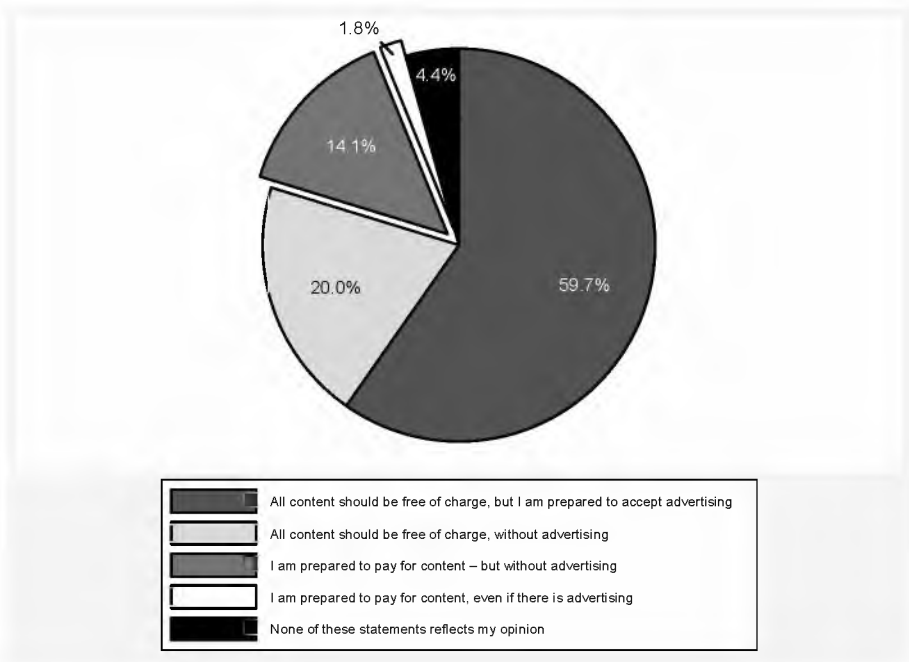


Fig. 3: Pie chart of the willingness to pay for dictionary content.

3.3 Discussion

Our results do not come as great surprise: almost no one is willing to pay for lexicographical premium content; however most of our respondents (59.7%) are prepared to accept advertising in return for content free of charge.

4 Devices used

Unlike traditional printed dictionaries, electronic dictionaries can be accessed on different devices, such as notebooks, personal computers, mobile phones, smartphones, and personal digital assistants (PDAs).³ From the user's point of view, this device independence allows maximum flexibility and efficiency. When designing an online dictionary, however, a practical problem arises, since the electronic dictionary has to be capable of adapting to different screen sizes. The rationale for this requirement is clear: the information must be readable both on a small screen (e.g. on a mobile phone), and on a big one (e.g. a PC). Because the implementation of this function can be costly, it is first necessary to enquire as to which devices are most frequently employed with electronic dictionaries. This information, in turn, can be used to decide if it is worthwhile creating an entry structure that is capable of adapting to different screen layouts, or which screen size should be given priority in design decisions. Furthermore, in relation to the design of a user-adaptive interface, it is interesting to know if there are any differences in the use of devices between different user groups (cf. Müller-Spitzer/Koplenig: Expectations and demands, this volume). For example, is it reasonable to assume that younger users tend to consult online dictionaries on more devices than older users, since the former group is more familiar with new technologies and devices? To summarize, the research questions relating to this issue were: first, which devices are used to access online dictionaries; second, which of these devices is used most often to access online dictionaries; third, whether there are any differences in the use of devices for different consultation purposes (private vs. professional); and last, if there are any differences in the use of devices between different user groups.

4.1 Method

Among other questions, respondents in the first survey who indicated that they had already used an online dictionary were asked the following two questions:

³ For a different notion of device see Bothma et al. 2011: 294.

- On which device/s have you used online dictionaries?
- Which device do you use most often to access online dictionaries?

Both questions had the following response options: (1) notebook/netbook, (2) desktop computer, (3) mobile phone, smartphone, (4) PDA, or (5) other.⁴ The first question was designed as a multiple response question (“Please tick all the devices on which you have already used online dictionaries.”). The second question only had a single response list (“Please tick only the device which you use most often to access online dictionaries.”)

To test if the consultation purpose is relevant in this context, respondents were asked if they used online dictionaries for private or professional purposes, by selecting one of the following response options: private only, mainly private, both private and professional, mainly professional, professional only.

4.2 Results

4.2.1 Descriptive results

A detailed distribution of respondents’ answers to the first question (“On which device/s have you used online dictionaries”) is shown in Table 1. The majority of the respondents (86.25%) indicated that they had only used an online dictionary on a desktop computer (91.63%) or on a notebook/netbook (75.59%). Only a minority of the respondents (13.75%) selected (at least) one of the other response alternatives.

In total, 99.85% of the respondents indicated that they had already used online dictionaries on a notebook/netbook and/or on a desktop computer. Only one respondent claimed that she had only used an online dictionary on a mobile phone/smartphone and on another device (“iPod”) so far.

The distribution of the second question (“Which device do you use most often to access online dictionaries?”) is quite similar (cf. Table 2). The vast majority (98.95%) of respondents most frequently use an online dictionary on a desktop computer (56.50%) or on a notebook/netbook (42.45%). In what follows, only the first question will be further analysed, since only a small minority (1.05%) of the respondents indicated that they most frequently used online dictionaries on devices other than a notebook/netbook or a desktop computer.

⁴ All the respondents who choose this option were asked to specify their choice in a text box.

Device	Frequency	Percent of cases
Notebook/Netbook	499	75.59
Desktop computer	613	91.63
Mobile phone, smartphone	72	10.76
PDA	23	3.44
Other	7	1.05
Total	1214	181.46

Tab. 1: Distribution of devices used to access online dictionaries

Device	Frequency	Percent
Notebook/Netbook	284	42.45
Desktop computer	378	56.50
Mobile phone, smartphone	4	0.60
PDA	2	0.30
Other	1	0.15
Total	669	100

Tab. 2: Distribution of devices used most often to access online dictionaries

4.2.2 Subgroup analyses

There are no significant distributional differences between linguists and non-linguists ($X^2(12) = 11.47$, $p = .49$), and between translators and non-translators ($X^2(12) = 17.94$, $p = .12$). However, there are highly significant differences regarding the language version of the survey chosen by the respondents ($X^2(12) = 44.87$, $p < .00$). It is worth noting that respondents in the English language version selected devices other than a notebook/netbook or a desktop computer, such as mobile phones/smartphones ($X^2(1) = 16.55$, $p < .01$) or PDAs ($X^2(1) = 10.53$, $p < .01$) significantly more often compared to respondents in the German language version (cf. Table 3). To further analyse this relationship, we generated a binary variable, named SMALL SCREEN, indicating whether a respondent selected at least one device other than a notebook/netbook or a desktop computer. 13.75% of the respondents clicked at least one of the other three alternative devices indicating that they had already used an online dictionary on a small-screen device, while the rest (86.25%) only selected notebook/netbook and/or desktop computer to indicate on which device they had already used an online dictionary. 19.72% of the respondents in the English language version had already used an online dictionary on a small-screen device, compared to 6.80% of the respondents in the German language version ($X^2(1) = 23.42$, $p < .00$).

We fitted a binary logistic regression model to predict the probability of belonging to one of the two categories of the SMALL SCREEN variable, using age of the respondent as an explanatory variable. To reduce the effects of outliers, the age varia-

ble was log-transformed. A binary logistic regression ($N = 661$; Nagelkerke $R^2 = .00$; $X^2(1) = 0.90$, $p = .34$) reveals that the age of a respondent is not a significant predictor of the SMALL SCREEN variable ($\beta = -0.29$; $p = .35$). Note that seven respondents did not indicate their year of birth and are not included in this analysis. This analysis reveals that the age of a respondent is not a significant predictor of the SMALL SCREEN variable indicating that younger respondents do not use small screen devices more often than older respondents.

Device	Language version		Total	$X^2 / p\text{-value}^a$
	German	English		
Notebook/Netbook	80.91	69.17	74.59	12.090/0.003
Desktop computer	90.29	92.78	91.63	1.340 / 1.000
Mobile phone, smartphone	5.50	15.28	10.76	16.547/0.000
PDA	0.97	5.56	3.44	10.528 / 0.006
Other	0.65	1.39	1.05	0.883 / 0.1000
Total	184.67	178.86	181.45	

^a p values (last column) are Bonferroni adjusted.

Tab. 3: Distribution of device usage as a function of language version

To examine the influence of the consultation purpose in this context, we generated a nominal variable with three categories: the first category for respondents who use online dictionaries mainly or exclusively for PRIVATE purposes, the second category for respondents who use online dictionaries both for PRIVATE and PROFESSIONAL purposes, and the last category for respondents who use online dictionaries mainly or exclusively for PROFESSIONAL purposes. Table 4 reveals an interesting pattern: respondents who use online dictionaries both for private *and* for professional purposes had already used an online dictionary on a small-screen device more often (18.85%) than respondents who use online dictionaries (mainly or only) for private purposes (7.14%), and respondents who use online dictionaries for professional purposes (7.69%). This effect turns out to be highly significant.

		PURPOSE			Total
		PRIVATE	BOTH	PROFESSIONAL	
SMALL	No	92.86	81.15	92.31	86.25
SCREEN	Yes	7.14	18.85	7.69	13.75

Tab. 4: Distribution of small-screen device usage as a function of purpose of use

4.3 Discussion

On the one hand, the results clearly demonstrate that the respondents to our first study mainly tend to use online dictionaries on big-screen devices (e.g. desktop

computers). Only a small proportion had already used online dictionaries on devices with a smaller screen (e.g. mobile phones). Subgroup analyses reveal that neither the academic background, the professional background, nor the age of the respondents are significant predictor variables of the device usage pattern. Respondents in the English language version indicated more frequently that they had already used an online dictionary on a small-screen device than respondents in the German language version. A similar relationship was found regarding the purpose of consultation. Nevertheless, the great majority of respondents had never used online dictionaries on devices other than a notebook/netbook or a desktop computer.

However, we do not conclude from these results that the development of an online dictionary that is capable of adapting to different screen sizes is pointless, because at least three objections can be raised against this conclusion. First, it is reasonable to assume that screen-size adaptable online dictionaries will become more important in the near future, since the market for small-screen devices (e.g. smartphones, tablets, and eBook readers) is constantly expanding. Second, although our sample of respondents is quite large, it is somewhat biased towards Europe (especially Germany) and the U.S.. This could lead to an underestimation of the percentage of online dictionary users who have already used online dictionaries on a small-screen device, as result of a fact mentioned in the introduction, namely that pocket electronic dictionaries are especially popular in Japan and other Asian countries (cf. Nesi 2012). Third, more empirical research is needed, because our study left out certain important issues: if people really do start to use online dictionaries on small-screen devices more often in the future, it will be important to know if there are any differences regarding the dictionary consultation process. For instance, it is possible that small screen devices (e. g. smartphones) are used more often during oral text production. If this assumption proves to be true, the dictionary should be designed accordingly.

To summarize, based on our results, it seems to be appropriate to optimize the screen design to big-screen devices without losing sight of the smaller ones. However, further insights into this topic regarding the current situation would be valuable for practical lexicography.

5 Concluding remarks

As mentioned at the outset of this contribution, the general questions served two purposes: firstly they were intended as some kind of introduction to the actual topic of the survey (cf. Müller-Spitzer/Koplenig: Expectations and demands, this volume). Secondly, only in a general study it is possible to ask general questions: research into dictionary usage is time and money consuming, so most studies have place their focus on a narrowly defined topic or project. Of course this makes sense, be-

cause it seems to be the best way to deduce practical results. However, this also means that empirical answers to general lexicographical questions are missing.

The data collected by us show that our respondents both use printed and online dictionaries and, according to their self-report, many different kinds of dictionaries. In this context, our results revealed some clear cultural differences: in German-speaking areas spelling dictionaries are more common than in other linguistic areas, where thesauruses are widespread.

Only a minority of our respondents is willing to pay for premium content, but most of the respondents are prepared to accept advertising. Our results also demonstrate that our respondents mainly tend to use dictionaries on big-screen devices, e.g. desktop computers or laptops. We expected younger respondents who have grown up with digital technologies (“digital natives”, cf. Rundell 2012) to have different needs compared to older users. The fact that we found no link between the age of the respondent on the one hand and the devices used on the other hand came as somewhat of a surprise. Maybe contrary to our general assumption, the age of a respondent does not seem to matter when it comes to online dictionaries: both old and young persons show no significant differences in their response behavior. Therefore, we cautiously draw the conclusion that the hypothesis that younger users have different basic needs, has to be questioned and answered empirically first. Certainly, every generation is different in many ways from the previous ones. If the use of online dictionaries is one of those ways and in which aspects of dictionary use these differences become apparent, has to be thoroughly examined first. Here, our questions focus on dictionary use, i.e. assume that a dictionary is used. If this is the case, the generations might not be as different in their behavior as you think. Maybe, it is more the question whether younger people use dictionaries at all or if they are aware of the differences between dictionary sites and other sites when they are ‘googling’ linguistic questions (cf. Rundell, 2013, p. 5). Against this background, it would be interesting to empirically explore the question, if (classical) dictionaries are still used to answer linguistic problems, and if so, by whom.

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