Styling the index: is it time for a change?

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Abstract.

Two empirical studies on the effects of indexing styles are presented. The research shows that there is an intricate relationship between task complexity and search efficiency afforded by style. A Run-In index yields the best performance when people engage in a search in which keyword and entry are identical. A Flush Right style, with leader dots to prevent line switching, yields the best performance for more complex search tasks as compared to a Run-In or an Indented style. It is argued that a clear visual separation between entry and locator may help the user in keeping apart the distinct goals of searching for an entry and looking for a locator.

1. Introduction

There is little empirical research on the presentation of an index. Handbooks such as those of Bonura, Fetters and Mulvany [1–3] give advice on topics such as the overall style, type size, number of columns, text alignment and the like, but this advice is often not based on research [4]. Empirical research can provide important insights into the validity of the existing views. In addition, it can help detect and correct flawed assumptions [5–7]. This paper discusses research on indexing styles.

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2. The style of an index

An index, just like other distinctive parts of a book, has its own style or distinctive presentation. Generally this is a run-in style (RIN), an indented style (IDT), or a flush-right style (FRT). All these styles place the main headings flush left. Runover lines – lines with sub-entries and sub-sub-entries – are indented (see Figs 1–3).

An important difference between the three styles comes from the *positioning of locators* (page numbers). The RIN and IDT styles place the entries and locators in close proximity to each other. The locator is generally a single space (about 1 mm) to three spaces (about 3 mm) away from the (sub)entry. In addition, the RIN style often uses a semicolon to visibly separate locators from the next sub-entry. The IDT style and RIN style yield a ragged right-hand margin. The FRT style, in contrast, has a right-justified margin. Locators are set flush right with the last one touching the right-hand margin of the column.

Another important difference between styles concerns the treatment of sub-entries. The IDT and the FRT styles use only vertical spacing. Each entry, regardless of whether it is a main entry or sub-entry, occupies exactly one line. The RIN style, in contrast, varies the treatment of entries. Main entries are spaced vertically; sub-entries are spaced horizontally. The width of the column determines how many sub-entries plus locators can be presented on each line. When there is not enough room to fit these on a single line, the listing continues on another indented line (see Fig. 1).

3. Arguments for or against a style

Indexers generally recommend the use of either an RIN- or an IDT-style index. They also indicate that these styles dominate, and that only rarely is an FRT style

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Abstract 117
Add 146
columns 614; endnotes 182; footnotes 182; headers 240; paper definition 453; row 604, 614; word 552, 557; word to dictionary 565
Added Text 98
Advance 13
and page breaks 14; other format 423
Algorithmic dictionaries 560
Aliases 88
Align 150
character 371, 423, 595; decimal align 271; decimal tabs and align 596; flush right 175; several lines 176; tab 595; text 595
ALIGNC 156
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Alphabetic conversion chart 55
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add to existing text 9; add when typing 8; appearance 8, 9, 39; base font 9; codes 9; column 628; combinations 40; fonts 177, 179; normal text 9; printer program 499, 500; printing 10; related 40; size 8, 10, 39; size attribute ratios 268; table cell 627; table text 604
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Fig. 1. A run-in index (RIN style) with vertical spacing for entries and indented sub-entries. The locators are positioned next to the entries.

used [1–3, 7]. The choice for a particular style hinges on designer as well as user considerations, but only the latter are discussed here.

For the user the critical aspect of style is 'ease of use'. Handling the index should require little mental effort and take little time. The presentation should facilitate the search for the right entry and page location in the book. Also, it should prevent the user from making mistakes. In other words, the style of an index should help the user in finding entries and locators quickly and flawlessly.

Many authors argue that vertically spaced indexes are best suited for this [1, 3, 7, 8]. Browsing or scanning is facilitated by the liberal use of white space. In addition, these processes are just as easy for main entries as for sub-entries, thanks to the fact that each (sub)entry occupies a single line. Another argument in favour of vertically spaced indexes is that their spacing 'provides a consistent visual appearance throughout the index' [8, p. 46]. Each entry, regardless of its level, always appears on a new line.

An argument in favour of an RIN-style index is that it uses fewer pages [5]. An RIN-style format can reduce the page count for the average index by as much as 25–30%. This may improve their ease of use because people need to leaf through fewer pages [9]. Another argument favouring an RIN-style index is that it affords a more efficient search pattern. Whereas the IDT style and FRT style are optimally suited for processing an index in a linear, top-down pattern, the RIN style affords a zigzag search pattern in which users may benefit from the fact that (sub)entries are presented close together [9].

Empirical research is needed to address these diverging conceptual views. The research reported here replicates and extends earlier studies on style. These studies are briefly discussed before presenting the new research.

4. Previous studies on styles

In a paper from 1977, Burnhill *et al.* [5] describe two empirical studies comparing the styles displayed in Figs 1–3. Their study coincided with what appeared to be a movement away from FRT towards RIN- or IDT-style indexes. The authors present the latter styles as their 'own solutions' that 'are also recommended by texts on indexing' (p. 35). In addition, they note that the IDT style strongly resembles the style advocated by the new British Standards Institution document for the preparation of indexes of 1976 [10], a standard that was made public after the design of their study. The research included an FRT_{min}-style index as a control condition, representing 'the traditional approach' (i.e. without the leader dots; p. 35).

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Abstract 117
Add 146
  columns 614
  endnotes 182
  footnotes 182
  headers 240
  paper definition 453
  row 604, 614
  word 552, 557
  word to dictionary 565
Added Text 98
Advance 13
  and page breaks 14
  other format 423
Algorithmic dictionaries 560
Aliases 88
Align 150
  character 371, 423, 595
  decimal align 271
  decimal tabs and align 596
  flush right 175
  several lines 176
  tab 595
  text 595
ALIGNC 156
ALIGNL 156
ALIGNR 157
Alphabetic conversion chart 55
Alphanumeric keys 548
Alt Key pull-down menus 513
Alt-letter macros 43
Alternatives to hyphenation 248
ALTRNAT.WPK 273
Anchor Type graphics box 207

Fig. 2. An indented index (IDT style) with vertical spacing for entries and sub-entries. The locators are positioned at a distance of a single space (about 1 mm).

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A	
Abstract	117
Add	146
columns	614
endnotes	182
footnotes	182
headers	240
paper definition	453
row	604, 614
word	552, 557
word to dictionary	565
Added Text	98
Advance	13
and page breaks	14
other format	423
Algorithmic dictionaries	560
Aliases	88
Align	150
character	371, 423, 595
decimal align	271
decimal tabs and align	596
flush right	175
several lines	176
tab	595
text	595
ALIGNC	156
ALIGNL	156
ALIGNR	157
Alphabetic conversion chart	55
Alphanumeric keys	548
Alt Key pull-down menus	513
Alt-letter macros	43
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Fig. 3. A flush-right index (FRT_{min} style) with vertical spacing for entries and sub-entries. The locators are positioned at the right-hand margin of the column. In this case there are no leader dots, hence the qualification 'min'.

Approximately 190 children (aged 11–12 years) participated in the first experiment. The children were randomly assigned to one of the three styles. Burnhill *et al.* [5] used the index from a children's book as the basis for the design. The children received an index and a list of keywords drawn from the index. They were instructed to find the page numbers for the listed items as quickly as possible. The children were given 5 minutes to complete their task.

From best to worst, the mean number of items found was 13.4 for RIN, 12.7 for FRT_{min} and 12.2 for IDT style. These differences were not statistically significant. The

authors also reported an error rate of 'between 1 and 2 per child' (p. 37). Here too, there was no statistically significant effect of style. The authors then corrected some methodological weaknesses and conducted a second study. In that study, 170 children (aged 11–12 years) were given 3 minutes to find main entries and 4 minutes to find sub-entries.

From best to worst for main entries, the mean number of items found was 12 for RIN, 10.6 for IDT and 10.5 for FRT_{min} style. From best to worst for sub-entries, the scores were 9.9 for IDT, 9.8 for FRT_{min} and 9.7 for RIN style. The differences were again not statistically significant. For error rates the authors merely mentioned that the rates for sub-entries were similar to the ones found in the first study.

The authors concluded their research by stating 'other things being equal, it may not be necessary to place each sub-item on a new line' (p. 38). They suggested that indexers might opt for an RIN-style index because it is more cost-effective (thanks to the reduced page count) without yielding a lower performance.

In 1994, Steehouder *et al.* [9] conducted a 'replication study' using adults, college students, instead of children. Another difference with the study of Burnhill *et al.* [5] was that a single point line spacing of about 3 mm was used and the typing of the index was replaced by electronic processing. Apart from these issues, the set-up of the experiment was comparable. Once again, the same three styles were studied and, just as before, participants were given an index and a list of keywords with the task of finding the page numbers for these items as quickly as possible.

Again an audience-relevant index was chosen, in this case an index from a book on WordPerfect. Each of the three styles had a maximum of two levels (no sub-sub-entries) and was presented in a two-column structure. Participants were given 10 minutes to complete their task. The authors looked at search speed (the number of items found) and error rate (the number of mistakes).

From best to worst, the scores for search speed were 50.7 for RIN, 45 for FRT_{min} and 43.6 for IDT style. The difference between RIN on the one hand, and IDT and FRT_{min} style on the other, was statistically significant. Participants found it easiest to find keywords in the RIN-style index. Again, relatively few mistakes were made. From best to worst, the error rates were 0.7 for IDT, 1.1 for RIN and 1.5 for FRT_{min} style. The IDT style led to statistically significantly fewer mistakes than did the FRT_{min} style. The RIN style was neither better nor worse than the others.

The authors suggested that 'line switching' could have caused the high error rate for the FRT_{min}-style index. Line switching has to do with the physical distance between entry and locator. If a critical threshold for entry–locator distance is exceeded, the eye may move downward or upward during search, thus causing line switching. This threshold presumably lies somewhere between 3 and 4 cm. This could have taken place in the study of Steehouder *et al.* [9] given the column-width of 7.5 cm.

5. Introduction to study 1

The first empirical study presented here extends the research of Burnhill *et al.* [5] and Steehouder *et al.* [9] in two ways. First, it improves the design for the FRT-style index by adding leader dots. Second, it examines the effects of style for a slightly broader range of keyword searches.

The FRT-style index in the reported experiments had no leader dots to guide the eye. This is at odds with relevant practice. Indeed, Mulvany [3] states that 'Years ago it was not unusual to see indexes with their locators set flush right, *preceded by leader dots*. This format produced a right-justified index . . . the locator is separated from the entry so that the user must carefully follow a trail of leader dots to the locator' (p. 188, emphasis added). The reported study therefore examines an FRT-style index with leader dots (see Fig. 4).

Burnhill *et al.* [5] and Steehouder *et al.* [9] examined a form of keyword search in which participants worked with keywords which had exactly the same word(s) as the index entries that were to be found. The present study stays within this paradigm of keyword search, but it extends the previous studies by using a more varied task typology. More specifically, the impact of index style was studied for four types of keyword searches: identical, word-order reversals, syntactic variations and synonyms (see the Materials section).

Just as in the study of Steehouder *et al.* [9], the effects of IDT, RIN and FRT-style indexes are compared for search speed and error rate. It is important to observe here that the study is concerned only with the effects of layout of indexes and not with the construction of the index itself. Variations in the search task are meant only to examine the ease of use of various styles. They are not intended as discussion points for, say, determining the entries for an index.

Fig. 4. A flush-right index (FRT style) with vertical spacing for entries and sub-entries and with the locators positioned at the right-hand margin of the column. Leader dots are used to prevent inadvertent line switching.

6. Method

6.1. Participants

Seventy-two students from Twente University were randomly assigned to the three indexes (RIN, IDT or FRT style). To examine the effects of variations of the keyword search items six different lists were used (see Materials). Four participants in each condition worked with the same keyword list, yielding a total of $4\times6=24$ participants for each index style. Indexes and keyword lists were in Dutch so that participants worked with materials in their native language.

6.2. Materials

A short questionnaire assessed the participants' prior knowledge about word processing. The questionnaire asked for a self-rating of word-processing experience, using a five-point Likert scale. Apart from the added leader dots, the layout of the indexes was the same as used in the study of Steehouder *et al.* [9]. Each index had about 1600 entries displayed in a two-column format and printed on A4-size paper. The font type was Swiss, a non-serif type font that resembles Arial, and the font size was 10 point. Each index was two levels deep. The RIN-style index consumed 10 pages; the other indexes needed 14 pages.

The basis for the six keyword lists was a sample of 158 identical items selected randomly from the index. These items formed the basic keyword list in which the keywords are identical to the relevant entries in the index. That is, each keyword appears in exactly the same words and exactly the same word order in the index. Fifty-five percent of these items are main entries, the others sub-entries. For 79 of the items another keyword was created, using one of three means of modification: (a) word-order reversal (e.g. keyword: flag update; index: update flag); (b) syntactic variations (e.g. keyword: setting print quality; index: print quality setting); and (c) synonyms (e.g. keyword: screen; index: monitor).

Six lists with search items were created. The list with 0% modifications presented only identical items. The five other lists were a mixture of identical items and modifications. These mixed lists contained, respectively, 10, 20, 30, 40 and 50% modifications. Word-order reversals and syntactic variations were presented in all these lists. Synonyms appear in the 20% and higher modification lists. To ensure an even spread throughout the list, the distribution of the modifications was stratified and randomized for series of 10 items. For example, the distribution of the first 10 items on the 50% modifications list was as follows: items 1, 2, 3, 6 and 8 are modifications, and items 4, 5, 7, 9 and 10 are identical items.

6.3. Procedure

Participants first filled in the questionnaire about prior knowledge (due to a miscommunication, these data were gathered only for 49 participants). Thereafter, they were given a keyword list and an index. Participants were then instructed about the task. They were asked to search the index for the keywords on the list and to fill in the corresponding locator(s) on their list. They should do so as quickly as possible, for a total time of 10 minutes. They were also told that, in case they ran into trouble finding an entry, they were advised not to search too long for one item but to continue with the next.

6.4. Scoring and data analysis

Just as in the study of Steehouder *et al.* [9], search speed is simply the number of items for which participants filled in one or more page numbers. Error rate is the total number of mistakes (wrong page numbers) plus the number of skipped items. Casual slips, such as writing 651 instead of 615, are ignored.

All data were first analysed in a multivariate analysis of variance (MANCOVA) with list type (0, 10, 20, 30, 40 and 50% modifications) as a covariate. This yielded a statistically significant effect (F (4,136)=3.61, p<0.01; Pillai's statistic), which made it meaningful to conduct univariate analyses of variance (ANOVA) to search for specific effects of index type on search speed and error rate. For some of these, effect-sizes have been examined by calculating the ES statistic. ES values of 0.10, 0.50 and 0.80 are considered to be, respectively, small, moderate and large.

There was a statistically significant multivariate effect of prior knowledge (F (2,43)=8.42, p<0.001). The ANOVA showed only a statistically significant effect on search speed (F (1,44)=13.53, p<0.001). As one might expect, participants with more experience in word processing found more items. More importantly, there was no interaction with the effects of index style.

To assess whether the four keyword searches did indeed reflect a more complex situation for testing different indexing styles, an accuracy score for keyword modification was calculated. This score is simply the percentage of correct solutions for a particular type of keyword. In discussing the accuracy findings it is important to note that the study of Burnhill *et al.* [5] presented identical keywords and word-order reversals, whereas Steehouder *et al.* [9] included only identical keywords.

7. Results

Participants working with the RIN-style index found 12.7% more entries than participants working with the IDT-style index and 14.7% more entries than in the FRT-style condition (see Table 1). The difference is statistically significant (F (2,68)=3.85, p<0.05) and it replicates this effect of style on search speed found by Steehouder *et al.* [9]. The magnitude of the difference is moderate. The RIN style compared to the IDT style yields an effect size of 0.50; the RIN style compared to the FRT style gives an effect size 0.66.

The FRT styled index yielded the smallest number of mistakes (F (2,68)=3.53, p<0.05). Participants working with the RIN-style index and the IDT-style index made, respectively, 49.6 and 69.6% more mistakes. The magnitude of the difference between the FRT style on the one hand and the RIN and IDT style on the other is moderate (ES= 0.46, and 0.57). This finding may relate to the wide visual gap between keyword and locator in the FRT-style index. Perhaps the visual separation between entry and locator affords a focused search for entries in which users are not (prematurely) distracted by locator information.

Table 2 shows the accuracy scores for the four keyword types. Each modification of identical

Table 1
Means (M) and standard deviations (SD) for the number of items found (search speed) and the number of mistakes (error rate) for each index style

	Search speed		Error rate	
Style	M	SD	M	SD
Run-in style (RIN)	42.79	9.26	5.67	4.51
Indented style (IDT)	37.96	9.54	6.42	5.45
Flush-right style (FRT)	37.29	7.17	3.79	3.70

Table 2
Number of participants (n), mean (M) and standard deviation (SD) for the accuracy scores of the identical items and the three types of modifications

		Accuracy score	
Keywords	n	M	SD
Identical	72	93	10
Syntactic variation	60	80	30
Word-order reversal	60	72	28
Synonym	48	23	32

keywords leads to a lower accuracy and in all cases the contrast is substantial and statistically significant (e.g. a contrast with syntactic variations yielded F (1,57) = 11.19, p<0.001; ES = 2.58). By far the most complex modification involves the use of synonyms. Compared with, for example, word-order reversals, the difference is statistically significant (F (1,45) = 69.57, p<0.001) and quite substantial (ES = 4.80).

An analysis of the interaction between style and type of keyword modifications yielded two intriguing findings. First, style was found not to affect the accuracy score for identical items (F (2,69) = 1.19, n.s.). Compared with the study of Steehouder *et al.* [9] this means an important reduction of error in the FRT-style index. Probably this is due to the leader dots preventing inadvertent line switching. Second, style also affected the accuracy scores for keyword modifications. The FRT-style index yielded statistically significant higher accuracy scores for syntactic variations (F (2,57) = 6.10, p<0.01) and for synonyms (F (2,45) = 3.71, p<0.05) as compared to the other styles. Perhaps this signals that it is beneficial to *not* present entry and locator too close together. The design invites a separation between the first and the second step in keyword search; finding a relevant entry is visibly separated from finding the locator(s) for the entry. In other words, the fairly wide gap between entries and locators in the FRT-style index may help users stay focused on their search goal.

8. Discussion and introduction to study 2

Study 1 shows that the preferred choice of indexers, namely the IDT style, yields the worst performance for keyword search. On search speed the RIN style outperforms the other styles and on error rate the FRT style is best. These divergent outcomes obviously complicate the issue of which style to choose.

Indexes, at least on paper, are 'one design for all'. The preferred choice is, therefore, a style that performs best on a representative sample of user searches. In this respect the keyword search task in study 1 covered only a limited area. It is a first step towards a study of the impact of style on a spectrum of user questions and access paths.

Study 2 takes a second step in this endeavour. The scope of the user search tasks is now broadened by including task descriptions that are indirectly based on actual user questions.

9. Method

9.1. Participants

Seventy-five students from Twente University were randomly and evenly assigned to the three indexes (IDT, FRT or RIN style) for a total of 25 participants per index. All participants received a list with 30 keywords, six for each of the five 'word pair' combinations (see Materials). Again, all materials were in Dutch.

9.2. Materials

In a study on indexing, Nas [11] discovered that word-processing problems of users often led to a search for keywords that were either problem-oriented or solution-oriented. That is, when presented with a list of 26 divergent problem descriptions, users 'translated' these into shorthand notations focusing on the perceived problem or probable solution. These shorthand notations then served as input for an index search.

An important difference between problems and solutions concerns the use of jargon. Problems generally describe a vexing situation in lay terms. Solutions offer a way out of such a problem by describing a software option, using the terminology of the software. For example, for a problem such as 'how can I display a word skewed?' a solution-oriented keyword or index entry could be 'word, italics'.

With these considerations in mind a new search list was created containing the following sets of keyword–entry combinations: identical–identical, problem–problem (e.g. cursor, reposition–pointer, move), problem–solution (e.g. special character, typing–symbol, insert), solution–problem (e.g. page, break–page, new) and solution–solution (e.g. diskette activate–floppy activate). The search list contained exactly six keywords for each type of word pair.

In the study, the placement of the page numbers in the RIN and IDT style indexes was slightly different from before. For replication purposes, study 1 kept the distance between entry and locator at a single space, about 1 mm. In study 2 the distance was increased to three spaces to improve the visual separation of the two entities.

9.3. Procedure, scoring and data analysis

The procedure was identical to that of the first study, except for search time. Instead of 10 minutes, participants were now given 15 minutes for task execution to compensate for increased task complexity. Search

speed and error rate were calculated in the same manner as before. After finding a statistically significant multivariate effect (MANOVA), univariate analyses of variance (ANOVA) were conducted to discover specific effects of index type and keyword modification on search speed, error rate and accuracy. For comparative purposes the accuracy scores of the study of Steehouder *et al.* [9] were also calculated. Prior knowledge was found not to affect search speed or error rate.

10. Results

Table 3 shows that the styles differ only slightly on search speed. The FRT style has a negligible 1.1% advantage over the RIN style and it is better than the IDT style by a meagre 5%. These differences are not statistically significant (F (2,74)<1, n.s.).

Table 3 also shows that the smallest number of errors was made by participants who had worked with the IDT style. The score for this index was 7% better than for the FRT style which, in turn, was 12% better than the RIN style. Here too the differences were not statistically significant (F (2,74)<1, n.s.).

Word pair type had a statistically significant effect on accuracy (F (4,68) = 27.72, p<0.001). Table 4 shows the accuracy scores for each of the five word pair types. The overall trend is that matching word pairs yield more accurate outcomes. The best performance, of course, is found for the identical word pair. It is the difference with the accuracy scores found in study 1 which is noteworthy (74% vs 93%). The finding in study 2 probably reflects an impact of the greater complexity of the search task. As users are no longer reasonably sure of finding an exact keyword match, they are more likely to stop earlier, or become confused. In other words, an increased task complexity stimulates users to adopt more varied searches which, in turn, negatively affect what otherwise would be easy and very accurate keyword searches. The problem–problem and solution–solution word pairs occupy the middle position on accuracy. The divergent word pairs score lowest on accuracy.

Table 3
Mean (M) and standard deviation (SD) for the number of items found (search speed) and the number of mistakes (error rate) for each index style; study 2

	Search speed		Error rate	
Style	M	SD	M	SD
Run-in style (RIN)	18.12	7.75	8.76	3.72
Indented style (IDT)	17.44	6.14	7.16	3.76
Flush-right style (FRT)	18.32	6.87	7.72	5.20

Table 4
Mean (M) and standard deviation (SD) for the accuracy scores of the five types of word pairs; study 2

	Accuracy scores	
Word pair (keyword–entry)	M	SD
Identical–Indentical	0.74	0.28
Problem–Problem	0.65	0.30
Solution–Solution	0.55	0.28
Problem–Solution	0.49	0.33
Solution–Problem	0.35	0.23

An analysis of the interaction between style and type of keyword modifications showed that the FRT-style index yielded the most accurate scores on four of the five word pairs. These differences were statistically significant only compared to the RIN styled index. The accuracy scores between these two styles differed for the combinations: identical–identical (F (1,48) = 3.82, p = 0.056), problem–problem (F (1,48) = 4.81, p<0.05), and solution–problem (F (1,48) = 3.94, p = 0.053). For the word pair solution–solution, the IDT style yielded the highest accuracy score and here the difference with the IDT and the FRT style was statistically significant (F (1,48) = 7.54, p<0.01; F (1,48) = 4.78, p<0.05). There were no other statistically significant differences between the RIN styled index and the IDT styled index.

Table 5 shows that there is a statistically significant effect of index type favouring the FRT style over the RIN style on accuracy in study 2. Table 5 also depicts the accuracy scores for the two earlier experiments for which this score could be calculated. In all these studies the FRT-style index yields the best overall

Table 5
Mean and standard deviation (in parentheses) for the accuracy scores for the three index styles in the experiments

	Accuracy scores		
Style	Steehouder *et al.* (1994)*	Study 1**	Study 2***
Run-in style (RIN)	0.98 (0.03)	0.85 (0.13)	0.49 (0.19)
Indented style (IDT)	0.97 (0.02)	0.81 (0.17)	0.58 (0.18)
Flush-right style (FRT)	0.98 (0.03)	0.89 (0.11)	0.61 (0.15)

*F(2,90)=3.85, p<0.05; RIN style and FRT style are better than IDT style (but there is a ceiling effect).
**F(2,68)=3.87, p<0.05; FRT style is better than IDT style.
***F(2,72)= 3.01, p=0.056; FRT style is better than RIN style.

results for accuracy. In the Steehouder *et al.* study [9] this top position is shared with the RIN style.

11. Conclusion

The two studies clearly indicate that some styles are better than others depending on the kind of search users are likely to engage in. When there is a perfect match between keywords and entries, an RIN-style index offers the most effective solution. For more complex keyword searches best overall results are obtained with the FRT style. The latter data clearly call into question the view to 'frown upon this style today' [3, p. 188].

Does this mean that it is time for a change? Perhaps. There is more ground to be covered in examining task situations. Even though the second study indirectly used real user questions, critics still might argue that the task 'leads' the participants. In this respect it is important to note that recently a study was published that compared the efficiency of an RIN-style index with an IDT-style index for non-leading or open tasks [4]. Although exact statistics are not reported, the findings from the study clearly favoured the IDT-style index. An FRT-style index was, unfortunately, not included.

In the article, Olason [4] also argues in favour of coupling insights on access paths of participants to design options and guidelines for indexes. Such insights can be obtained from detailed usability studies involving keyword search tasks as well as open tasks. In such studies the value of options such as adding signals (e.g. bold or italics) to specific entries or locators, or adding an information typology (e.g. definition, example) to entries can be empirically grounded, along with new designs of indexes that adapt to newly discovered user propensities.

It is time to further examine these possibilities for change. Whether this yields support for a change towards an indented index with its locators set flush right(the FRT style), or variants thereof, only further research can tell.

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