Learning German formulaic sequences: the effect of two attention-drawing techniques

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This article reports a small-scale study that investigated the effect of (1) an instructional method, viz. directing learners’ attention to formulaic sequences (FS) in a text, and (2) typographic salience, i.e. bold typeface and underlined, on foreign-language (FL) learners’ recall of FS and single words (SW). Twenty-eight FL learners read a glossed German text in two conditions. The experimental group was instructed to pay attention to both FS and SW during reading and write down unfamiliar FS and SW, whereas the control group was instructed to pay attention to unfamiliar vocabulary in general. All the participants were forewarned that a vocabulary posttest would follow the reading task. Unlike the control group, the experimental group was explicitly told that they would have to translate SW as well as FS into German. The target items were divided into 12 SW and 12 FS. Half of these SW and FS were underlined and printed in bold typeface, the other half was not. The results indicate that typographic salience had an effect on participants’ recall scores, whereas the instructional method did not. Furthermore, the effect of typographic salience seemed to be particularly beneficial for learning FS. These findings suggest that typographic salience facilitates FL learners’ noticing and learning of unknown lexical items and of FS in particular.

Introduction

Foreign-language (FL) learners are faced with the challenge of acquiring a large vocabulary (Milton 2009). Clearly, vocabulary does not only consist of individual words but also of formulaic sequences (FS). Researchers and teachers alike acknowledge the importance of learning FS in the FL classroom because FS serve a number of communicative functions; they are ubiquitous in language; they allow more fluency in language output and their use makes FL learners come across as more proficient (Barfield and Gyllstad 2009; Boers et al. 2006; Schmitt 2008: 340). It is precisely these formulaic sequences that present a special challenge to FL learners. Although more studies have taken FS as their central focus, especially FL learners’ use of FS (e.g. Durrant and Schmitt 2009; Laufer and Waldman 2011), far fewer studies have examined instructional methods that enhance learners’ noticing and/or processing of FS (Bishop 2004; Boers et al. 2006; Jones and Haywood 2004).

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The present study explores the effect of two attention-drawing techniques on recall of target items by Dutch-speaking learners of German. The two techniques under investigation are an instructional method prompting learners to pay attention to FS in a reading text and typographic salience, viz. target items in bold typeface and underlined. Our specific focus is on how these two techniques will affect participants’ recall of the form of single words (SW) as well as formulaic sequences. The next section briefly introduces the terminology and the definitions this paper adopts. It then surveys previous studies on instructional interventions and formulaic sequences.

Background

It is clear from the literature that different terms are used to describe this phenomenon of lexicalized patterns or formulaic language (Wray 2002: 9). In this paper, ‘formulaic sequences’ is adopted as an umbrella term, encompassing multiword units, chunks, collocations, conventionalized forms, fixed expressions, prefabricated chunks, ready-made utterances, idioms, proverbs, sayings and multi-word sequences (Schmitt and Carter 2004; Wray 2002). In other words, formulaic sequences consist of a sequence of words and they cover different types of word combinations. Some German examples would be: den Zug verpassen (to miss the train), auf der einen Seite . . . auf der anderen Seite (on the one hand . . . on the other hand), Übung macht den Meister (practice makes perfect), vorsätzliche Missverhalten (willful misconduct), sich Mühe machen (to make an effort).

Research has shown that within the context of instructed vocabulary acquisition, reading only does not suffice to build a large vocabulary size (Laufer 2005; Schmitt 2008). The low incidence of vocabulary acquisition through reading, however, can be boosted by tasks or techniques that prompt second-language (L2) learners to pay attention to unfamiliar words and push them towards more elaborate processing (Peters et al. 2009; for an overview of these techniques, see Schmitt’s 2008 review article). In order to learn new words, FL learners need to notice new words, allocate attentional resources to them and process their lexical information elaborately to establish a form-meaning link. In other words, retention of new words is determined by the way the information is processed (Craik and Lockhart 1972; Craik and Tulving 1975; Laufer and Hulstijn 2001). Schmitt (2008: 340) concludes that ‘virtually anything that leads to more exposure, attention, manipulation, or time spent on lexical items adds to their learning.’

Instructional methods and formulaic sequences

Most studies so far have mainly focused on the effect of pedagogic interventions on learning individual words but recently the research focus has shifted more to studying the learning process of FS as well (Boers and Lindstromberg 2009). Without instructional intervention, FL learners may not notice new words when reading a text. Certainly, this is true for FS because they are often semantically transparent. L2 learners may understand the meaning of the FS from the meaning of its parts, even if its form differs from learners’ first language (L1) (see also Nation 2001: 325). Moreover, the correct and appropriate use of FS presents a particular challenge to FL learners, even advanced ones (see Laufer and Waldman 2011 for a survey of studies). Not only do FL learners make more errors when producing FS,
previous findings also suggest that they tend to overuse some FS (Durrant and Schmitt 2009; Laufer and Waldman 2011).

The following four studies address the question of how the process of learning FS can be boosted via instructional methods. Jones and Haywood (2004) explored the effect of an instructional method training English for Academic Purposes (EAP) students in FS. Two groups were exposed to the same syllabus during a 10-week EAP course. Ten students received training in FS (= treatment group), whereas 11 other students did not (= control group). The FS training consisted of a reading component focusing mainly on awareness-raising exercises and a writing component (writing essays, gap-fill exercises, producing concordance texts). Their findings suggest that the treatment group demonstrated an increased awareness of FS and modest gains in FS knowledge, but no increased use of FS in their writing.

In another study, conducted by Boers et al. (2006), the research focus was on the effect of the lexical approach as instructional method on L2 English learners’ use of FS. Two groups were exposed to the same reading and listening materials. One group was instructed and encouraged to pay attention to FS (= experimental group), the other group received traditional grammar–vocabulary instruction (= control group). Their findings demonstrated that the experimental group used more FS compared to the control group when retelling a story they had just read. In addition, the experimental group was perceived as more proficient than the control group, but this difference disappeared in spontaneous speech (conversation/interview).

A recent study by Laufer and Girsai (2008) examined the effect of three instructional methods on English L2 vocabulary learning: (1) content-oriented tasks, (2) text-based vocabulary tasks, and (3) L1 into L2 and L2 into L1 translation tasks after a reading task. They found that the use of translation had a positive effect on participants’ learning of single words as well as collocations.

Finally, Peters (2009) explored the effect of an instructional method, drawing FL learners’ attention to FS in a reading text, on recall of SW and FS. Fifty-four English as a foreign language students read a glossed text in one of two conditions. One group was instructed to pay attention to unknown vocabulary and write down unfamiliar lexical items (= control group). The experimental group was explicitly instructed to pay attention to unknown SW as well as FS. All participants were forewarned that a vocabulary posttest would follow. Although the experimental group wrote down more SW and FS than the control group, there was no significant difference in recall scores between the two groups, either for the SW or for the FS.

**Typographic salience**

New SW and FS may not be noticed by FL learners while they read a text. One way to overcome this problem is by making the form of lexical items typographically salient, e.g. by using bold typeface or a different color or by underlining them.

De Ridder (2002) investigated the effect of visible hyperlinks on French FL learners’ clicking behavior and word retention when reading a text on a computer screen. She found that when reading a text with visible hyperlinks, FL learners are more willing to look up the meaning of these glossed words. However, this increased clicking had no effect on learners’ word retention. In a computer-based study, Bishop (2004) demonstrated that typographic salience of target items (in red and underlined) resulted in more clicks on formulaic sequences. L2 learners who had read a typographically enhanced text looked up more visually enhanced formulaic
sequences than L2 learners who had read the same text but without typographic salience. Unfortunately, Bishop did not report whether typographic salience yielded a positive effect on learners’ recall of FS as well. The present study is an attempt to fill this gap in FS research. In short, the literature review suggests that there are mixed findings with regard to the effect of instructional methods on recall of FS and that typographic salience has an effect on learners’ willingness to consult (online) glosses of both individual words and FS.

Rationale and research questions

This study explores the effect of two instructional interventions, directing FL learners to pay explicit attention to unfamiliar FS in a reading text (= instructional method) and prompting learners to allocate attentional resources to unfamiliar individual target words and FS in a reading text by using bold typeface and underlining the target items (= typographic salience). This study investigates whether these two techniques have an effect on learners’ form recall of both SW and FS. Unlike most previous studies, which tended to examine the effect of instructional interventions either on SW or on FS, this study examines their effect on both categories of target items (SW as well as FS). In addition, the aforementioned studies looked at pedagogic interventions in isolation, whereas this study also seeks to examine the interaction between the two techniques.

The following research questions were addressed:

1. What is the effect of an instructional method, encouraging learners to pay attention to FS while reading a text, on recall of the target items, i.e. SW and FS?
2. What is the effect of typographic salience on learners’ recall of target items, i.e. SW and FS?
3. Is there an interaction effect between instructional method and typographic salience on learners’ recall of target items, i.e. SW and FS?
4. What is the effect of an instructional method, encouraging learners to pay attention to FS while reading a text, on the number of target items, i.e. SW and FS, participants write down while reading a text?
5. What is the effect of typographic salience on the number of target items, i.e. SW and FS, participants write down while reading a text?
6. Is there an interaction effect between instructional method and typographic salience on the number of target items, i.e. SWs and FS, participants write down while reading a text?

Method

Participants

Twenty-eight students took part in this study. Except for two students whose L1 was Kurdu and French, participants’ L1 was Dutch. They were all in their first year of applied language studies at a Flemish institution of higher education. The participants in this study had all chosen German as one of their foreign languages. Students were in their second term and had already received German courses in the first term, such as German linguistics, German written language proficiency, and German oral language proficiency. Their age ranged from 19 to 23 years. Although participants’ proficiency level could be estimated as low–intermediate, they still
constituted a fairly heterogeneous group because they were first-year students and there are no admission requirements in Flemish higher education. Participants were familiar with the concept of FS and its importance in language. A pretest indicated that all the participants were unfamiliar with the target items.

Research design and materials

Design
Participants first read a glossed text in German that dealt with the topic of carnival, before carrying out a text-related vocabulary activity and summarizing the text. The text contained 1148 words. Sixty-nine SW and FS in total were glossed in the margin (L1 translation), amongst them the 24 target items. Each target item occurred only once in the text.

The study adopted a 3 × 2 factorial design with one between-subject variable, instructional method, and two within-subject variables, typographic salience and type of target item. Instructional method was the between-subject variable: presence or absence of an explicit instruction to focus on FS. Participants read the glossed text in one of two conditions. One group was instructed to read the text, to focus on FS during reading and next to write down new and unfamiliar single words and formulaic sequences on a vocabulary task sheet, which was divided into two columns, one for the SW and one for the FS (= experimental group). To ascertain that all learners understood the task instruction, several examples of FS were given. The other group was solely instructed to read the text, to focus on unfamiliar vocabulary, and to write down new and unfamiliar vocabulary on a vocabulary task sheet (= control group). No reference to FS was made. The vocabulary sheets of both groups could be used to verify if the participants, by writing them down, recognized and noticed target items as being unfamiliar. If written down, this could be considered as some kind of evidence that the participants noticed and allocated at least some attentional resources to the target item. However, this does not necessarily entail that if an item was not noted down, it was not noticed or processed at all. Furthermore, both groups were explicitly forewarned that a vocabulary posttest (L1 into L2) would follow. The experimental group was informed that they would have to translate SW and FS into the L2 (German), whereas the control group was told that they would have to translate vocabulary items into the L2 (German).

Typographic salience constituted the first within-subject variable (presence or absence of bold typeface and underlining). Since it is not easy for FL learners to notice new words and FS during reading, the use of typographic salience could help learners overcome this problem. The 24 target items occurred in the glossed reading text. Half of these target items were in bold typeface and underlined, the other half was not.

Type of target item was the second within-subject variable, viz. SW versus FS. In other words, the 24 target items were divided into 12 SW and 12 FS. This means that half of the SW (n = 6) and half of the FS (n = 6) were in bold typeface and underlined (see also Table 1).

Target items
The target items, divided into 12 SW (six in bold typeface/underlined and six not in bold typeface/not underlined) and 12 FS (six in bold typeface/underlined and six not
in bold typeface/not underlined), were taken from the reading text and were selected after pretesting all the participants. Two weeks prior to the learning phase, two written pretests were administered to ascertain that all the participants were indeed unfamiliar with the target items. The first pretest consisted of 50 German SW that the participants needed to either translate into their L1, Dutch, or define in the L2. The 12 single words that were selected were: (1) not in bold typeface and not underlined: Auftakt (prelude), Gesöff (muck, swill), gestehen (to confess, admit), säumen (to border), sich schlängeln (to curl), trotzig (defiant); and (2) in bold typeface and underlined: erlangen (to attain), fackeln (to linger, dawdle), restlos (completely), Trümmerfeld (debris), Verheerung (devastation), wirken (to seem, appear). The second pretest contained 40 Dutch FS, for which the participants needed to supply a German translation. In line with Laufer and Girsai (2008), knowledge of the meaning of the FS (L2 into L1) was not tested because FS are often semantically transparent and consequently easily understood. The 12 FS that were selected were: (1) not in bold typeface and not underlined: Bier zapfen (to draw beer), etwas aus der Taufe heben (to launch something), nicht zur Kenntnis nehmen (to ignore), tief bewegt (deeply moved), zu Ende gehen (to come to an end, to be over), Schutt beseitigen (to dispose of rubbish); and (2) in bold typeface and underlined: die Tore öffnen (to open the door to something), Einzug halten (to set in, to make one’s entry as), jemandem einen Besuch abstatten (to pay someone a visit), sich unabhängig freuen (to be thrilled), Spenden sammeln (to raise money, donations), in ein Tollhaus verwandeln (to turn into a madhouse).

Participants’ form recall of the 24 target items was measured via an immediate and delayed posttest, in which they had to supply the German translation of as many items as possible. The posttest was piloted with a native speaker to verify whether it was indeed possible to fill in the required target item. The first letter(s) was in some instances provided to ensure that participants would not supply an alternative, but correct answer. The delayed posttest was identical to the immediate posttest, except for the order in which the items were presented. The posttests were scored dichotomously, with one assigned to a correct L1 into L2 translation and 0 to an incorrect one. Minor spelling errors were ignored, in as far as they did not distort the target item’s comprehensibility. For instance, Gesöff (instead of Gesöff) was accepted, while säumeln (instead of säumen) and Bier tappen (instead of Bier zapfen) were not.

Scoring and analyses

To answer the research questions, ANOVAs with repeated measures were computed. Instructional method (presence or absence of an explicit instruction to focus on FS) constituted the group or between-subject variable, whereas typographic salience (presence or absence of bold typeface) and type of target

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Table 1. Target items categorized by type (SW or FS) and typographic salience.

<table>
<thead>
<tr>
<th></th>
<th>Underlined/bold</th>
<th>Not underlined/not bold</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW</td>
<td>6</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>FS</td>
<td>6</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>12</td>
<td>24</td>
</tr>
</tbody>
</table>
item (single words or FS) were the within-subject variables. An alpha level of 0.05 was taken as the level of statistical significance. However, the results of the delayed posttest were not analyzed in the same statistical model as the immediate posttest due to a lack of attendance of 13 participants. Since only 15 students took the delayed posttest, non-parametric statistical analyses were carried out on the delayed posttest.

The effect of instructional method and typographic salience was analyzed at three levels. First, students’ notes were analyzed in terms of (the number of) target items written down on the vocabulary notes sheet (= vocabulary activity). If the experimental group wrote down more FS, the instructional method could be said to have an effect on students’ recognition of FS in the text. Second, the study’s main focus was on stimulated recall of the target items via a posttest. Recall of the form could serve as evidence that one or both techniques had an effect on students’ establishing form-meaning connections of new lexical items. Finally, the study also allowed us to study participants’ spontaneous use of the target items in the summaries to some extent.

**Procedure**

Data were collected in the learners’ classroom during regular class hours. The experimental procedure consisted of three sessions. During the first session, participants took the pretest. Two weeks later, the experimental treatment took place. Students were randomly assigned to either the experimental or the control group. They read their group-specific instruction. Both groups were asked to first read the text, then to do the vocabulary activity (= writing down unknown lexical items) and next to summarize the text. They were both forewarned of the upcoming vocabulary posttest. As already mentioned, the experimental group was at this stage directed and encouraged to pay attention to FS in the reading text. In addition, they were explicitly forewarned that they would have to translate SW and FS into German in the posttest. To prepare for this test, all the participants received a vocabulary task sheet, on which they could write down unfamiliar or new vocabulary. Unlike the task sheet of the control group, the task sheet of the experimental group was divided into two columns, one column for SW and one column for FS. The participants had the glossed reading text at their disposal while carrying out the vocabulary activity and the summary task. They were allotted about 90 minutes. Immediately after the learning phase, the posttest was administered. Participants also completed a short questionnaire on their perception of the text, the tasks they were set and the difficulty of test. The second session (= treatment + posttest + questionnaire) took two hours. Finally, in the third session two weeks after the learning phase, participants took the delayed posttest without any warning. Students were also debriefed about the aim and procedure of the experiment. All data were collected via paper-and-pencil tests and tasks.

**Results**

First, the descriptive and inferential statistics are provided to answer the first three research questions. Next, the analysis of students’ notes on the vocabulary sheets is presented. The results section ends with an analysis of students’ summary.
Table 2. Mean and standard deviation (in brackets) of immediate recall scores by group, by typographic salience and by type of target item.

<table>
<thead>
<tr>
<th></th>
<th>All items (max. = 24)</th>
<th>Items bold/underlined (max. = 12)</th>
<th>Items not bold/underlined (max. = 12)</th>
<th>SW (max. = 12)</th>
<th>FS (max. = 12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>14</td>
<td>7.07 (4.55)</td>
<td>4.29 (2.92)</td>
<td>2.79 (1.81)</td>
<td>4.00 (2.75)</td>
</tr>
<tr>
<td>Control</td>
<td>14</td>
<td>10.36 (4.60)</td>
<td>6.07 (2.67)</td>
<td>4.29 (2.40)</td>
<td>6.64 (2.59)</td>
</tr>
<tr>
<td>All participants</td>
<td>28</td>
<td>8.71 (4.79)</td>
<td>5.18 (2.89)</td>
<td>3.54 (2.22)</td>
<td>5.32 (2.95)</td>
</tr>
</tbody>
</table>

Research question 1

The first research question focuses on the effect of an instructional method (encouraging learners to pay attention to FS while reading a text) on recall of the target items, i.e. SW and FS. Surprisingly, the highest recall scores were found in the control group, as can be seen from Table 2. The ANOVA, however, indicated that this difference on the immediate posttest was not statistically significant ($p > .05$).

Because of the few participants present during the third session, the data of the delayed posttest were not entered in the ANOVA. Instead non-parametric analyses were computed. Although the control group recalled slightly more target items ($n = 9; M = 3.89; SD = 2.00$) than the experimental group ($n = 6; M = 2.00; SD = 1.79$), the difference was not statistically significant ($p > .05$). But in general, a floor effect was found in the delayed posttest in both groups. It seems that directing learners to pay attention to FS while reading a text is not an effective method to focus students’ attentional resources on targeted items.

Research question 2

The second research question deals with the effect of typographic salience on learners’ recall of target items. Participants recalled the form of more bold/underlined target items than of target items not in bold typeface/not underlined (see Table 2). The statistical analyses demonstrated that this difference in recall score on the immediate posttest was statistically significant ($F (1, 27) = 20.08; p < .001$). In other words, typographic salience (bold typeface and underlined) seems to be a successful method to effectively focus learners’ attention on target items. In spite of the slightly higher recall scores for the bold target items ($M = 1.60; SD = 1.06$) than for the items not in bold typeface ($M = 1.53; SD = 1.46$), non-parametric analyses showed that the difference was no longer significant on the delayed posttest.

Research question 3

The third research question looks at the effect of possible interactions between instructional method, typographic salience and type of target item recalled. The ANOVA revealed only one significant interaction, viz. between type of target item
and instructional method ($F(1, 27) = 8.10; p = .009$). The control group recalled the form of more single words compared to the experimental group. However, the difference between the two groups with regard to their recall of the FS was much smaller. In this context, it is also interesting to indicate that, irrespective of the group, participants recalled more single words than FS.

Although the interaction between typographic salience and type of target item was not statistically significant ($p > .05$), it is clear from Table 3 that the difference in recall scores was more striking with regard to the FS. This was corroborated by additional statistical analyses. Paired $t$-tests showed that the difference between FS in bold typeface and underlined and FS not in bold typeface and not underlined was statistically significant ($t(1, 27) = 4.41; p < .0001$), whereas the difference between SW in bold typeface and underlined and SW not in bold typeface and not underlined was not ($t(1, 27) = 1.69; p = .10$).

Participants’ notes on vocabulary sheets

To shed more light on how the participants dealt with unfamiliar vocabulary, their vocabulary task sheets were analyzed. A first conclusion is that there were enormous individual differences. Some learners copied a lot of SW and FS, others only a few (number of lexical items written down ranged from 11 to 89). Moreover, some learners wrote down the accompanying translation, others did not. It should be noted here that participants were not instructed to write down the translation. Some students also underlined SW and FS in the text. In other words, participants clearly employed different vocabulary learning strategies.

Remarkably, participants did not always copy SW or FS correctly, although they had the glossed text at their disposal. For instance, participants’ notes contained spelling errors (Gesoff instead of Gesöff, schlängelen instead of schlängeln, fackelen instead of fackeln) or incomplete forms (deletion of the prefix ‘ab’-’: statten instead of abstatten). Finally, more SW were written down compared to FS, which might explain why participants recalled more SW than FS in the (immediate) posttest.

A quantitative analysis confined to the target items allows us to identify whether participants assigned to the experimental group wrote down more FS compared to the control group and whether target items in bold typeface/underlined were copied more than items not in bold/underlined. Such an analysis made it possible to determine – to some extent – whether the participants allocated attentional resources to the target items by writing them down, though this does not mean, of course, that lexical items that were not written down were not attended to. Table 4 provides the

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>SW bold/underlined</th>
<th>SW not bold/not underlined</th>
<th>FS bold/underlined</th>
<th>FS not bold/not underlined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>14</td>
<td>2.21 (1.76)</td>
<td>1.79 (1.19)</td>
<td>2.07 (1.49)</td>
<td>1.00 (0.88)</td>
</tr>
<tr>
<td>Control</td>
<td>14</td>
<td>3.57 (1.02)</td>
<td>3.07 (1.94)</td>
<td>2.50 (1.79)</td>
<td>1.21 (0.98)</td>
</tr>
<tr>
<td>All participants</td>
<td>28</td>
<td>2.89 (1.57)</td>
<td>2.43 (1.71)</td>
<td>2.29 (1.63)</td>
<td>1.11 (0.91)</td>
</tr>
</tbody>
</table>
mean and the standard deviation in brackets. Only FS that were written down as a whole were counted. For instance, *verwandeln* instead of *in ein Tollhaus verwandeln* was not counted. Minor spelling errors were ignored (e.g. *Gesoff* instead of *Gesoﬀ*).

As can be seen from Table 4, the experimental group noted down more FS, although the control group wrote down more target items in total and more SW. The interaction between instructional method and the type of target item was statistically significant ($F(1, 26) = 9.65; p = .005$). It is also apparent from Table 4 that more target items in bold/underlined were found in participants’ notes compared to target items not in bold/not underlined. The ANOVA showed that the difference was significant ($F(1, 26) = 9.84; p = .004$). Surprisingly maybe, participants did not write down all the target items that were printed in bold typeface, although the pretest had shown that they were unfamiliar with these target items.

With regard to the interaction between typographic salience (+/ − bold typeface and underlined) and type of target item (SW or FS), it can be gleaned from Table 4 that FS in bold typeface/underlined were written down the most, whereas FS not in bold typeface/not underlined were written down the least. The statistical analysis revealed that the interaction was, indeed, significant ($F(1, 26) = 9.14; p = .001$).

Correlations between the number of target items written down and the immediate recall scores were computed. Positive and moderate correlations were found for all types of target items (bold and underlined items: $r = 0.38$; single words: $r = 0.40$; target items in general: $r = 0.46$; items not in bold and not underlined: $r = 0.50$), with the exception of the correlation coefficient for the FS, which was large ($r = 0.56$). In other words, these results suggest that the more lexical items one writes down, the higher the recall score tends to be, though it must be emphasized that the recall scores in the immediate posttest were rather low.

A qualitative analysis of participants’ notes helps us interpret some of the quantitative findings. Interestingly, some FS were not recognized as a whole. Instead of writing *in ein Tollhaus verwandeln*, some learners wrote either only *Tollhaus* or only *verwandeln*. Similarly, FS that could be considered semantically transparent were hardly found in participants’ notes compared to FS that were less semantically transparent. The FS *zu Ende gehen*, for instance, looks semantically transparent to Dutch-speaking learners of German since it consists of three words whose meaning, at least of the separate words, is likely to be known by the participants. The participants may have been familiar with *zu, Ende* and *gehen*, but they were not with the FS as a whole. The FS *jemandem einen Besuch abstatten*, on the other hand, was

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**Table 4. Number of target items written down, by group, by typographic salience and by target item.**

<table>
<thead>
<tr>
<th></th>
<th>SW bold/underlined</th>
<th>SW not bold/not underlined</th>
<th>FS bold/underlined</th>
<th>FS not bold/not underlined</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n</strong></td>
<td>14</td>
<td>2.43 (1.87)</td>
<td>2.36 (1.91)</td>
<td>3.36 (1.55)</td>
</tr>
<tr>
<td><strong>Experimental</strong></td>
<td>14</td>
<td>3.79 (1.97)</td>
<td>3.64 (1.91)</td>
<td>3.00 (2.35)</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>14</td>
<td>3.11 (2.01)</td>
<td>3.00 (1.98)</td>
<td>3.18 (1.96)</td>
</tr>
<tr>
<td><strong>All participants</strong></td>
<td>28</td>
<td>3.11 (2.01)</td>
<td>3.00 (1.98)</td>
<td>3.18 (1.96)</td>
</tr>
</tbody>
</table>
more likely to draw learners’ attention, probably because of the unfamiliar verb *abstatten*. Another example could be *Einzug halten*. As a consequence of not knowing the noun *Einzug*, this FS drew their attention.

**Summary**

The summary task was only used to ascertain that participants would read the text thoroughly. Therefore, the summaries were not scored. In the summary instruction, it was not specified that words occurring in the text had to be used in participants’ summary. The summaries showed that participants had read the text carefully. Although their summaries were not graded, they were analyzed in terms of their use of target items. It was very clear that participants employed very few target items in their summary (2.43 items on average). In addition, they incorporated as many (or few) visually enhanced items as non-enhanced items. Surprisingly maybe, more FS than SW were found in participants’ written output. Interestingly, of the 68 items in total that were used in the summaries, 43 were recalled in the immediate posttest, i.e. a recall percentage of 63%. Thus, the summary task, in as far as it prompted participants to use target items, yielded high recall figures.

**Discussion**

This study explored whether two instructional methods that prompted FL learners to allocate attentional resources to target items, i.e. SW and FS, in a text would have an effect on learners’ form recall of these items. The findings show that merely encouraging participants to focus their attention on FS when reading a text has no effect on their recall. Although the instructional method had an effect on the number of FS that students wrote down on their vocabulary sheets, it did not induce the kind of processing that resulted in higher recall scores. The use of typographic salience, on the other hand, seems to facilitate vocabulary learning because target items in bold typeface and underlined were not only written down more frequently in students’ notes, they were also recalled more often compared to target items not typographically enhanced.

There are three possible explanations why typographic salience was more beneficial for immediate recall than the instructional method. First, the findings may be explained in terms of the degree of guidance of the two methods. The instructional method was an open, free task prompting students to allocate attentional resources to FS in the input, whereas typographic salience highlighted target items in the text. In other words, the instructional method did not inform participants which lexical items to focus on, whereas typographic salience made (half of) the target items salient for learning. It seems that there are similarities between the current study and other studies, in which the degree of guidance varied. In a study conducted by de la Fuente (2006), the results showed that when involved in free interactive activities (= unguided) learners tended not to incorporate target words, whereas they did so in the case of a preplanned, guided and well-focused task. Similarly, Peters et al. (2009) found that of the techniques they investigated, the more open, free technique (test announcement) had an effect on learners’ number of online lookups but not on their retention of the meaning, whereas the more explicit, compelling task had (word relevance, operationalized via a comprehension task). They conclude that ‘a task feature that specifically enforces learners to process new words . . . produces more
effect than a task feature that does so only generally . . . . In other words, students allocate their attentional resources in function of the specificity of the task they have to perform’ (Peters et al. 2009, 143). In sum, the present findings suggest that typographic salience may be a successful method to effectively focus students’ attention on target items because it is more specific and more guiding compared to a general instruction such as telling FL learners to focus on FS in a text. The present results are supporting evidence for the findings obtained by Bishop (2004) and additional evidence that typographic salience may have an effect on FL learners’ recall of FS as well.

Second, the effect of typographic salience was especially striking with regard to immediate recall of the FS, since the lowest recall scores were found in the FS that were not visually enhanced. Although the analysis of participants’ vocabulary notes revealed that they wrote down more FS that were printed in bold typeface, the analysis also demonstrated that FS were not always recognized as a whole. In other words, participants sometimes copied one part of the FS (Schutt) instead of the FS as a whole (Schutt beseitigen). In addition, they hardly wrote down apparently semantically transparent FS (zu Ende gehen, Bier zapfen). Even though it needs to be emphasized that this did not only occur among the FS that were not typographically salient, it was – no matter how – more difficult not to recognize the FS as a whole when all its parts were in bold typeface. These examples illustrate Lutjeharms’ (1994) Kontrastmangelphänomen (phenomenon of lack of contrast), stating that the seeming familiarity of words can prevent FL learners’ from noticing an unknown word (or FS), whereas an unfamiliar or strange-looking word (or FS) may attract learners’ attention more easily. Similarly, Nation (2001) argues that FL learners may be perfectly capable of grasping the meaning of a formulaic sequence from the meaning of its separate parts, even if its form is different from the FS in learners’ L1. As a consequence, FL learners may ‘overlook’ the FS and allocate no or insufficient attentional resources to it.

Another possible explanation for the lack of difference in recall scores between the experimental and control group might be that the instructional method did not bring about a fundamentally different approach to the text and tasks. What constituted a difference was that the treatment had an effect on the experimental group’s recognition of FS in the text since they wrote down more FS compared to the control group, which is consistent with Jones and Haywood’s (2004) results. However, ‘noticing may be a prerequisite for learning, . . . it does not necessarily guarantee the acquisition of every single item that gets noticed’, as Boers et al. (2006, 257) argue. So, in spite of this difference in note taking, both groups were clearly engaged in writing down SW as well as FS, which supports Peters’ (2009) findings. Although many more lexical items in addition to the target items were glossed in the margin, it is not unlikely that the glosses served to some extent as an attention-drawing technique for the target items as well given the fact that students in both groups considered the glosses helpful to carry out their tasks and to prepare for the upcoming posttest, as was revealed in the questionnaire. Thus, it seems that not only typographic salience but also the provision of marginal glosses served as a selection mechanism for copying lexical items from the text.

Irrespective of the experimental condition, lexical gains were found. However, it cannot be ignored that, in general, recall scores were low. In order for successful vocabulary acquisition to take place, FL learners need to notice lexical items in the input, recognize them as unfamiliar or unknown, and process their lexical
information elaborately. Is this what happened? An analysis of participants’ vocabulary notes shows that about half of the target items were written down. In other words, these data suggest that participants allocated at least some attentional resources to these target items. However, in spite of the moderate correlations between items written down and recall, the data also seem to indicate that students merely copied the items instead of processing their lexical information thoroughly. It is therefore assumed that instead of deep and elaborate processing, only a superficial form of processing might have taken place. This interpretation seems to be in line with Barcroft’s (2006) findings. He demonstrated that copying a new word affected productive word learning negatively because it does not induce the kind of processing needed for word learning to occur. Participants’ cognitive resources may have been exhausted because they may have paid more attention to copying the lexical items than to processing their lexical information elaborately, and thus to creating a(n initial) form-meaning link in the mental lexicon.

In this context, it is interesting to note that students’ spontaneous FS usage in the summary yielded high recall scores of these items. Obviously, caution must be applied, as only a few FS were employed in participants’ summaries. Nevertheless, this finding suggests that when FL learners receive a task-induced incentive to really use a word, and thus process the target items’ lexical information elaborately, vocabulary learning is facilitated. To convey meaning in the summary task, participants allocated attention to and processed the target item’s semantic and syntactic features, which had a positive effect on their recalling that particular item.

It is, however, clear that the present findings should be interpreted with care given the limited number of participants. In addition, because of the few participants present during the third session, it is hardly possible if not impossible to draw any conclusion at all with regard to the delayed posttest. Logically, this small-scale study should be replicated taking this limitation into account. Secondly, it is not unlikely that the glosses also served as an attention-drawing technique, which might explain the fact that quite some SW not being typographically enhanced were written down and subsequently recalled. Moreover, it might, to some extent, account for the lack of difference between the two groups in terms of recall scores. Finally, in addition to the target items participants wrote down more lexical items on their vocabulary sheets. As a consequence, participants in this study may have learned more and other lexical items than the ones tested.

Conclusion
The findings of this small-scale study suggest that when FL learners read a glossed text, they are more likely to recall the form of typographically salient items (bold typeface and underlined) than of lexical items that are not typographically salient. From a pedagogic perspective, this is especially relevant because FL learners may experience difficulties noticing unknown vocabulary and FS in particular in a text, as was shown in students’ note-taking. Since FS are often semantically transparent and are often not recognized as a whole, underlining them and putting them in bold typeface has the potential to make FS more salient for learning and thus facilitate their learning process. Although the instructional method, prompting FL learners to allocate attentional resources to FS in a text, had an effect on the experimental group’s number of formulaic sequences written down, it had no effect on their recall because as a technique it was probably not specific and guided enough to effectively
focus students on the items to be learned and to induce deep processing. A remarkable finding was the effect of students’ employment of target items in the summary, resulting in high recall scores of the items used.

It is clear that more research on the learning process of FS needs to be undertaken. Future studies on post-reading activities are undoubtedly worthwhile. They could explore the effect of other, more guided and more directing techniques and instructional interventions on the learning process of FS.

References


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