

Lexical sets in beginners' second foreign language German learning

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This paper presents a study concerning the acquisition of highly recurrent semantically-related words in their relevance for language learning (LL). The first part outlines goals, methods, and results of the study. The second part introduces problems of the German main sentence pre-second-place main verb position. The third part presents a study on semantic set items recurrent in this position. The fourth part presents partial results and a preliminary discussion. The final part mentions ramifications for other foreign languages (FL) and future research.

この論文では意味が隣接する外国語会話に頻度の高い単語 (lexical sets) についてドイツ語を例にして調べる (第一部、第二部)。それらの語彙を取り扱ってから二十回目の授業に上達確認 (第三部) したところ、習得は様々であり種類によっては違いが明らかになった。ドイツ語の文頭にこの頻度の高い語彙の使用は学習者の一部は習得していることが確認できた (第四部)。文末は将来の課題を指摘する (第五部)。

THIS PAPER sets out from the learner problem of what to enter in the pre-second-place main-verb position in third language (L3) German, usually learned after English in Japan. The acquisition of associatively linkable serial words, e.g., lexical sets such as days of the week, which are highly recurrent in this position, is tested in two year-on-year studies after each nine weeks continuous and seven weeks interrupted repetition following introduction in the first term and the two-month summer break. After so much use and instruction, the research questions in this paper are:

1. Can lexical sets be learned to a degree that they are used efficiently in appropriate contexts?
2. Can even learners in beginners' courses acquire sufficient elements to fill the sentence beginning in German appropriately?

The goal of this study is to find out whether a) lexical sets are remembered sufficiently after a fairly long time of practice, and if a) is successful, whether b) they are used in their most common way in German in the sentence-beginning position by the students.

The method is a test, consisting in part of short dictation items and in part of writing items at the beginning of the class in the 20th week with and without longer interruption after teaching in various ways.



The results hint at both difficulties as indicated by Nation (1991, 2000) and Waring (1997) as well as opportunities as mentioned by Folse (2004). Future research will, however, have to overcome general limits of learning such items.

German sentence word order and sentence initial phrases

Of all Indo-European languages, English, the first FL of most students in Japan, has lost most of the original gender and case distinctions in nouns. The lack of case endings means word order takes on the role of signifying the grammatical function of a word in the sentence. This development has brought English close to an isolating language such as Chinese.

On the contrary, most other languages in that linguistic group have kept a flexible word order. German, still the second or third most often taken FL in Japan, for example, has a basic S-O-V order (Bierwisch, 1963) in subordinate clauses and the one-finite-verb-in-second-place verb rule in the main clause only (Ickler, 2009), otherwise allowing a fairly flexible (but semantically distinctive) word order. One meaning unit such as a location or day of the week (see table 1 below) is to appear in the sentence initial position. The rest of this paper will be concerned with what can be placed in this position, with *ich* (English: I) or other subjects possible, but other elements more frequent candidates.

While to fill the first place is no big problem for a native speaker, any learner of German as a FL will have to acquire strategies for doing this, especially since sentences beginning with the subject are soon a minority when leaving formal (see the introduction in Table 1 below) or scientific literature and *ich* as subject in sentence initial place is restricted to cases of special emphasis such as self-introductions. Although statistics are hardly ever available, in everyday conversation even successive sentences beginning with the subject sound awkward.

Rather, a wide variety of elements of different categories can appear as pre-verb sentence initial elements (of course also familiar from Old and Middle English literature) as demonstrated in the, probably intentional, examples in table 1 from a linguistics professor's self introduction on his homepage (von Stechow, 2009):

Table 1. Examples for sentence initial phrases from von Stechow's homepage

Expression	English	Category (simplified description)
Ich	I	1st person subject
Studiert	Studied	present perfect participle
Nach meiner Promotion im Jahr 1969	After graduating in 1969	extended prepositional time phrase
Dort	There	Location
1992	In 1992	short time phrase
Waehrend . . . in Konstanz	During . . . in Constance	subordinate time clause
Am meisten	Most	superlative
Dieses Interesse	This interest	impersonal subject
Neben . . . Publikationen (ist)	Besides . . . publications (.is)	part of an equation
Ein Ziel, das . . . , ist . . .	One goal, which . . . , is	indefinite subject with subordinate clause in equation
Da . . . bemuehen,	Since we . . . try,	Causal subordinate clause

More functions of the pre-verbal field are explained in Ickler (2009), Polikarpov (2004), and more recently Sahel and Jonischkait (2008).

In order to make as effective as possible a beginners course of German, focusing on, but not limited to, spoken conversation as requested by the author's students, a considerable number of lexical elements (Table 2 below) recurring and useful in the sentence-initial position have to be introduced.

Table 2. Examples of sentence initial elements in German everyday conversation

Sentence initial elements in main clauses in German everyday conversation include:

(Capital letters in brackets refer to test items in table 3)
[number of items learned before the test]

- Demonstratives of time and place: *da, dann* ? there, then[4]
- the numbers [20]
- the days of the week[7], and related items (A) [+7(today)+7(this week)+6(morning)]
- the months and seasons (C)[14]
- expressions for asking (E) and giving (B) [8] the time of day (F), and combinations thereof (D)
- question words (E) [8]
- words conceptually closely associated with each other, such as
 - » occupations [10],
 - » fruits [5],
 - » colors [5],
 - » clothes [5],
 - » drinks [5],
 - » parts of the body [12].

The latter part of the list given in table 2 are usually called lexical (Nation, 2000) or semantic (Waring, 1997; Higa, 1963) sets, and their elements can often be gathered in lists (Eco, 2009).

In German, these words are very often isolated items or combinations thereof, such as tomorrow + evening = tomorrow evening. Note that they can also move within the sentence or even to the end when this is necessary due to emphasis or the pre-field already being taken.

A review of the importance of lexical sets in learning language

According to Cobb (2001), Nation (1990, 2000) covered most of the contents of the discussions in the 1970s and 1980s. The teaching and learning in lexical sets enables the learners to "cover" a large number of words in a very short time, "helps learners [to] see how knowledge can be organized" and "reflects the way such information is stored in the brain" (Nation, 2000, p. 6).

Folse (2004) shares a traditional way of teaching these: "After you have presented a list of words...provide simple synonyms or definitions" (p. 6). Native speakers can easily order these elements in associative chains (*head, shoulder, knees, & toes*), but neither the associations nor their chains hold for FL learners and thus have to be learned (Nation, 2000). However, for FL learners, closely related elements tend to replace each other, making learning more difficult. Thus, because of severe interference effects between semantically closely related words, teaching in lexical sets is disfavoured, at least from a research perspective. Not only are they more difficult to learn (Nation, 2000), mix-ups between too closely thematically related words (*Tuesday* vs. *Thursday, Samstag* vs. *Sonntag* in German; Nation, 2000) may be due to strong negative effects of the lexical sets.

As demonstrated in Tables 1 and 2 above, there is a wide variety of syntactic constructions and lexical elements which

can occur in sentence-initial position in German. Prepositional phrases, subordinate clauses, and infinite forms such as infinitives and participles have not yet been taught in this position at this stage of the beginners course. The already learned remainder are mainly members of the lexical sets mentioned in Table 2. They already comprise more than one hundred words (see Table 2 above) which can occur in hundreds of combinations, so that any small test possible in an ongoing university course can only grasp a small part of the lexical sets knowledge that is or should have been acquired by the learners.

Since in the German beginners course the elements from the aforementioned lexical sets are repeatedly used over a long time from the introduction in the latter half of the first/summer term to the end of the second part of the four-block winter term in the 20th week, we wanted to know whether our learners also show the interference effects, and if not, whether they are able to adequately use the elements at the beginning of clauses. According to Reinelt (2009), students in this course fulfill CEFR A1 (Council of Europe, 2001) on five criteria including fluency by the end of the first term. In order to exclude fluency problems, the tests in the present study used a mixed design of dictation items and written answers as explained in the following section.

The study: Lexical sets after 20 weeks

The author's once-weekly 90-minute-lessons are usually organized in five to six "slots" of about fifteen minutes each. Lessons with related contents are sometimes organized as blocks. By the end of the first of three four-lesson blocks in the winter term, students should have recovered from all forgetting the summer vacation inevitably brings along. At this time, all those items learned recently in the winter term or before in the summer term have been in (re)use for up to four weeks. As the last week before beginning the second four-lesson block, this week ap-

pears the best for a check on pre-knowledge before the coming weeks see the *present perfect* arrive with its somewhat hard to study structure.

Administering the tests

Retention and active-use ability were checked in a mixed design with one part consisting of simple dictation (target language) or translation items (L1 to L2 and L2 to L1) and the other of comparatively complex written answers to open questions, with no support materials allowed.

As there were two aims, to check retention over time and across different classes, the test below was announced in the second-to-last week in October and administered in the last week of October in 2008 (study *a* below) and 2009 (study *c* below). Since in 2008, a block dealing with the *perfect* and vocabulary for its use followed the first administering, priming effects could be excluded and exactly the same test was given in the second week of November 2008 again (study *b*).

However, only half the number of students compared to study *a* were available.

The test was given as the first slot in the class. The items were presented as follows: Teacher: "*Nummer 2* (short break) *kyou* (short break) *kyou*" after which students had about one minute time to write the answer *heute*. Items were given successively, but after items 4, 8 and 11 the the next item was given only after more than half and after item 12 after more than two thirds of the students had stopped writing.

The test items, the same in both studies, were as follows:

Table 3. Test items

In table 2	Item no.	Item given as T=translation from L1 to L2 or vice versa. D=dictation (to be written in the same language)	Answers (informal German requested) / indicates points boundary	Points given T= 34	English (notes) Items 1,9 and from 13 on were concerned with unrelated matter
A	2	T: <i>kyou</i> (今日)	<i>heute</i>	1	today
	3	T: <i>suiyoubi</i> (水曜日)	<i>Mittwoch</i>	1	Wednesday
B	4	D: <i>halb neun</i>	4a: <i>halb/ neun</i> (writing) 4b: 八時半 (meaning)	2	half past eight
B	5	T: <i>shichiji gojippun</i> (七時五十分)	<i>zehn/ vor/ acht</i>	1 each of 3	ten to eight
C	6	T: <i>sangatsu</i> (三月)	<i>März</i>	1	March
A	7	T: <i>raishuu</i> (来週)	<i>nächste/ Woche</i>	1 of 2	next week
D	8	T: <i>sa raishuu kayoubi gogo</i> (再来週火曜日午後)	<i>Über/nächste/ Woche/ Dienstag/ nach/mittag</i>	1 each of 6	Tuesday afternoon the week after next
E	10	T: <i>nanji desu ka no yotsu no iikata</i> (「何時ですか」の4つの言い方; Give four ways of asking "what time is it" in German)	<i>wie spät ist es?/ wie spät haben wir?/ wieviel Uhr ist es?/ wieviel Uhr haben wir?</i>	1 each of 4	What time is it? (all four forms used very often; practice different question words)
	11	D: <i>Was machen Sie morgen so alles?</i> (dictation)	(writing:) <i>was/ machen/ Sie/ morgen/ so/ alles?</i>	1 each of 6	What are you going to do tomorrow?
F	12	T: "Antwort auf 11", "3" (Give three answers to question 11.)	(for ex. <i>Um 10 Uhr / gehe ich / an die Uni</i>)	3 each of 6	Give three answers to 11 (usually only 2 sentences were given) Check sentence initial part : pre-verbal part (1 point) + verb + subject (1 p) + rest of sentence(1 p)
	12	Sentence intelligibility: no (0) difficult (1) easy (2)		2 pts.	

Note: Due to technical difficulties, item E/10 was excluded from the scoring below. The total obtainable number of points is thus 30 in studies a and b. In study c, item F/12 was excluded from the scoring, resulting in a total of 22 points.

Timeline

The test described above occupied the following position within the overall two-term (summer semester SS, winter semester WS) schedule (table 4).

Table 4. Timeline for the lexical set elements in this study within the author's German courses

Date	Lesson	Action, stage, activity
April	1	lessons start
	numbers 0 to 9, 10-12, 13-19, 20-99
May	6	
	7	contents available in moodle
June	8	days of the week, months, seasons, time of day 1 to 12
	9	
	10	activities in one day, questions for eliciting them
	11	
July	12	
	13	rehearsal of oral exam
	14	oral exam
end of July	15	term final class

Date	Lesson	Action, stage, activity
Aug., Sept.		summer break: almost no L3 German contact
October	16	winter semester starts
	19	test announced
end of Oct	20	first administering
	21, 22	
mid-Nov.	23	second administering

Explanation

The author had introduced all elements of the lexical sets in the test above not as separate closed lexical sets, but in various conversational activities spread over the 4 weeks as elements in each of the five slots of about 15 minutes per 90 minute class between week 8 and 12 in the summer term. All contents were available for review, repetition, additional reading, and writing practice outside of class time on a class moodle. They were, however, summarized for the learners as lexical sets in the week 13 review at the end of the first term. Week 14 (mid-July) was reserved for the oral examination, week 15 the last meeting before the summer break. Practice resumed in October (weeks 16-20). In week 19, the test was announced as part of the end of block one activities in the winter term.

Thus,

- in study *a* in WS 2008/09, 64 students had practiced the lexical sets 19 times, even if only briefly each time;

- in study *b* in WS 2008/09, 32 (out of the 64 students in study *a* had practiced the lexical sets 21 times, even if only briefly each time;
- in study *c* in WS 2009/10, 43 students had practiced the lexical sets 19 times, even if only briefly each time.

Of course, the actual course contents covered many other parts of learning German and had to be adjusted to the students' progress. A detailed overview of the class contents is available in Reinelt (2008) or on request from the author.

Results and discussion

From this study we wanted to know how the students fared in their learning, and whether there were larger differences between the various types of items. Due to space, time, and technical limitations, the results presented in the following sections will only represent a small part of the data.

Students learning parts of lexical sets: Overall results

In order to find out whether lexical item learning had taken place at all, all students' point averages were computed. Only completely correct answers were counted in this part. The point total is 22 points for the words in A to E/11 and 8 points for the sentences in F/12 for a total of 30 points. The averages are included in Table 5.

With the number of items in the lexical sets learned before the test much larger than the number of other words learned throughout usual lessons, the ensuing low figures can somewhat be expected.

From the results we can see that only study *c* in the repeated test had more than 50% correct word results. The situation with the sentences was somewhat better, perhaps since students who did not write any sentence were eliminated from the average. Comparing the students' individual results in study *b*, we found that exactly 12 students improved while 12 did not improve, and 2 students received the same score.

Taking the results into account, we can say that at least as far as remembering the lexical set items is concerned, considerable learning had taken place by the first test in study *a*. The results in the subgroup study *b* even increased slightly in the repeated test two weeks later.

Study *c* with about the same length of learning as the group in study *a* fared slightly worse than that group. This class was taught much in the same way as that in studies *a* and *b*, and came to quite similar results. Even the same limitations hold as we will see in the next part.

Overall, the students' point results were slightly under 50%. Taking into account the difficulty of the tasks, for example in comparison to other such courses, and the fact that the learners were non-majors, the results are not discouraging. The results in these three studies neither support teaching lexical sets (where, without giving a fixed percentage number of words to be learned because classes vary considerably, the results should have been much better) nor refute the non-teaching hypothesis (where, again without giving a fixed number of words, the results should have been much worse).

However, since overall results only confirm the general learning assumption, a brief separate look at the acquisition rate of the lexical set items themselves and then at their use in sentence initial phrases is necessary.

Table 5. Averages for words and sentences

Study	No. of students	Word (T=22)/ average point scores	Percentage correct answers	St dev	→ Application in sentences	No. of students who answered F/12	Sentences (T=8): average point scores	St dev	
a)	60	10.78	49	4.49		42 (out of 60)	5.85	2.19	
↓ (in part) same class, same contents, different time: longitudinal						↓ (see left)			
b)	30	12.83	58	5.13		26 (out of 30)	5.91	2.56	
a) + b)	90	11.46	52	4.78					
↓ same contents, different class									
c)	43	10.37	47	5.24					

Items

Without being able to provide a detailed analysis for each item here, it does make sense to take a look at the differences in the students' scores according to the item types. In order to bring out the differences between items even more clearly, study *b* was added to study *a*. Study *c* showed very similar overall tendencies as can be seen from the overall point result, given in Table 5.

The main focus of the class in this study was on speaking, but all contents were available and practiced after instruction on a moodle account. The written production of words is used for data gathering. Slight typos (such as *hoite* for *heute*, which have the same pronunciation in German) were accepted except if

there were independent lexical items in German with a different meaning, which had been mentioned in class. We discuss only those points which are most relevant to teaching German as an L3 as representative of subsequent FL learning after English. A detailed analysis of the data has to be left to a larger project.

Scoring

The data were coded as follows (example *alles*):

- 0 for no entry at all;
- 0.1 for entries which were completely wrong, in a different language (mostly English) or otherwise made no sense (*ake, eins, alt*);

- 0.3 for distant semblances to the correct answer or typos which lead to different words (*ares*: two typos, different word);
- 0.6 for entries with one typo (*ales*);
- 1 for completely correct answers (*alles*) and spelling mistakes which, however, lead to a correct pronunciation (*hoite* = *heute*).

Data presentation

In our data presentation, let us first look at one example: *heute*. In studies *a* and *b*, out of the 90 students who answered this item, 68 answered completely correctly in the sense explained immediately above, the others less so. In study *c*, 28 out of 43 students answered completely correctly in the sense explained immediately above, the others less so. The point average for this item is $((9*0)+(8*0.1)+(2*0.3)+(3*0.6)+(68*1))/90=0.79$ in studies *a* and *b* combined, and 0.73 in study *c*. The average for this item in these two studies is 0.76, as demonstrated in Table 6.

Table 6. Example for average for *heute*

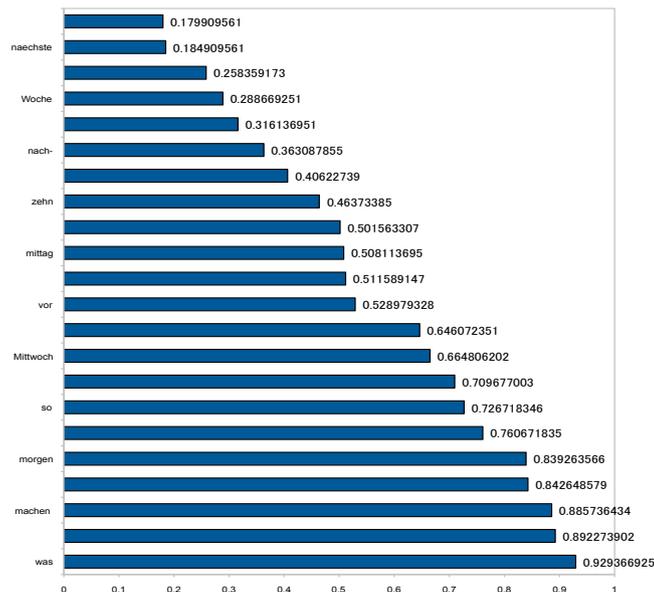
Study a+b	0	9
	0.1	8
	0.3	2
	0.6	3
Average (with 68=1)		0.79
Study c	0	3
	0.1	4
	0.3	6
	0.6	2
Average (with 28=1)		0.73
Average of a and b vs c: $(0.79 + 0.73)/2$		0.76

Standard deviations, skew and kurtosis are given in Table 9. Sorting items according to the point averages, nine items clustered only in two areas:

- 0.84 to 0.93 for *Morgen, Montag, machen, Sie* and *was* probably due to their being used in the long question in the dictation in item 11.
- 0.50 to 0.53 for *alles, Mittag, acht* and *vor*. No reason is evident at this point for this cluster.

All other items occupied individual points with a two to twelve point distance to the next item as can be seen in Table 7.

Table 7. Averages



The comments in Table 8 give a few further impressions of student performance on the test.

Table 8. Comments on individual items (I to 8; II)

Study/ items (1 to 5)	heute	Montag	nach-	naechste	Woche	Mit- twoch	neun	halb	zehn	vor	acht
a and+b	mostly correct			little learning	incorrect	correct peak smaller second peak		correct peak, smaller second peak			
c	2/3 correct	correctness peak	lesser correctness peak					incorrectness peak dominant over correct			

study/ items (6 to 8)	naechste	Woche	Maerz	ueber	mittag
a and+b	not learned	not learned, smaller second peak	two peaks	double peak	lesser incorrectness peak
c	incorrectness peak dominant over correct				double peak

Study/item 11	was	machen	Sie	morgen	so	alles
a and b	correctness peak					double peak
c						correctness peak

We here refrain from attempting explanations, but would rather leave this to future research. Table 9 in the appendix gives all occurrence data for the individual items. The summary comments in table 8 are based on this table and highlight some peculiarities, although a thorough discussion is beyond the realm of this paper.

Brief discussion

In general, students in study *c* answered more completely than those in study *a* and its subset study *b*. Even a cursory look re-

veals that the overall average results for learning the lexical sets are quite similar in both studies. *März* (March) was the only difficult month in comparison to English. Times of the day and the weekdays seem to be well acquired, but *nach* (after), used from the very first lesson, and *Woche* (week) also used from mid-first term onwards were conspicuously weak in both for reasons not clear at this point. Sentence beginnings were overwhelmingly correct from those students who actually did this task. Even their percentage range was close (see table 5 above).

For lexical sets, we can safely say that, when taking into account that these students have had German classes for only a few weeks and still have a tight schedule of other classes, the learning was at least in some areas successful (e.g., weekdays, times of the day) while it was less so in others, such as *Woche* (week) and the difficult month *März* (March). The most difficult point, the ability to fill in the sentence initial position, seems to have been mastered by at least those who have gained so much confidence that they give answers to questions.

Conclusion and future tasks

Our study could only touch a few points related to the learning of lexical sets. With the test administered with different students in successive years, the inter-group results (study *a* and its subset in study *b* vs. study *c*) were remarkably similar. However, considering the items by themselves, the results are contradictory: Words such as *nach* (after) were always introduced in context and not in lists, but fared badly in this study. On the other hand, the weekdays, introduced and sometimes reviewed as a list, seemed to be acquired much better.

The results could mean that the author's admittedly quite demanding syllabus has been taught successfully as far as the general learning of and with lexical sets is concerned. However, future research will perhaps have to look at which parts of the lexical sets can be learned, taught or otherwise covered in which way so as to find more differentiated and more effective approaches.

Bio data

Rudolf Reinelt has been teaching German at various levels at Ehime University since 1981.

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Appendix

Table 9. Individual item results

	heute	Mittwoch	halb	neun	zehn	vor	acht	Maerz	naechste	Woche	ueber	naechste	Woche	Montag	nach-	mittag	was	machen	Sie	morgen	so	alles	
study a+b	0	9	4	14	14	15	14	14	3	48	64	56	62	69	10	43	27	7	7	9	13	17	22
	0.1	8	14	10	7	26	12	15	41	27	5	15	14	5	6	11	14	1	0	1	1	16	23
	0.3	2	4	4	2	5	3	0	1	5	0	2	3	0	0	0	0	0	0	1	0	0	6
	0.6	3	16	10	0	0	5	4	15	2	6	7	2	4	4	0	2	0	2	0	2	0	16
	1	68	52	92	67	44	56	57	30	8	15	10	9	12	73	36	47	82	81	79	74	57	23
averages	0.791111	0.713333	0.666889	0.758889	0.534444	0.678889	0.676667	0.482222	0.148889	0.212222	0.181111	0.138889	0.165556	0.841111	0.412222	0.551111	0.912222	0.913333	0.882222	0.836667	0.651111	0.407778	
stdevs	0.382377	0.374226	0.421246	0.416215	0.462082	0.433303	0.441919	0.410146	0.289224	0.384482	0.333485	0.307105	0.351932	0.348317	0.483626	0.480226	0.282774	0.273225	0.318909	0.363024	0.462102	0.404533	
skew	-1.38429	-0.82504	-0.66831	-1.17542	-0.0054	-0.70907	-0.70426	0.259322	2.361352	1.428297	1.756338	2.296519	1.84164	-1.88579	0.40265	-0.16116	-2.94467	-3.00962	-2.38328	-1.85373	-0.57646	0.472342	
kurtosis	0.044818	-0.96658	-1.3673	-0.58943	-1.98808	-1.40615	-1.45967	-1.74568	4.294611	0.220184	1.535236	3.739189	1.607035	1.771227	-1.86399	-1.97862	6.835862	7.453367	3.817899	1.549391	-1.68676	-1.4582	
study c	0	3	2	3	3	2	2	7	2	14	20	15	15	19	3	12	21	1	1	2	6	2	4
	0.1	4	9	6	12	26	27	21	24	18	6	6	18	7	2	19	1	1	3	2	0	6	5
	0.3	6	4	6	0	1	0	2	4	3	1	0	1	2	1	0	1	0	0	0	0	1	7
	0.6	2	9	9	2	0	1	2	6	3	3	8	4	3	3	1	1	1	6	1	2	1	10
	1	28	19	19	26	14	13	11	7	5	13	14	5	12	34	11	19	40	33	38	35	33	17
averages	0.730233	0.616279	0.623256	0.660465	0.393023	0.37907	0.346512	0.330233	0.22093	0.365116	0.451163	0.22093	0.351163	0.844186	0.313953	0.465116	0.946512	0.85814	0.902326	0.84186	0.802326	0.595349	
stdevs	0.389465	0.389096	0.382247	0.438688	0.428394	0.421199	0.406699	0.347464	0.324814	0.449806	0.441519	0.331345	0.437184	0.328997	0.417237	0.491782	0.209704	0.28969	0.283254	0.353373	0.372564	0.379193	
skew	-0.88851	-0.32205	-0.34547	-0.57963	0.747781	0.811127	0.926653	1.104752	1.709736	0.625628	0.204122	1.639918	0.714272	-1.89705	1.037482	0.156169	-4.03475	-2.00111	-2.74091	-1.96353	-1.4446	-0.23162	
kurtosis	-1.0319	-1.5732	-1.48892	-1.66898	-1.48174	-1.35926	-1.02526	-0.34052	1.563468	-1.54505	-1.79064	1.249085	-1.3808	2.061136	-0.87047	-2.0261	15.67616	2.908841	6.017267	2.132691	0.201007	-1.48293	
study atb vs c																							
	heute	Mittwoch	halb	neun	zehn	vor	acht	Maerz	naechste	Woche	ueber	naechste	Woche	Montag	nach-	mittag	was	machen	Sie	morgen	so	alles	
averages	0.760672	0.664806	0.646072	0.709677	0.463734	0.528979	0.511589	0.406227	0.18491	0.288669	0.316137	0.17991	0.258359	0.842649	0.363088	0.508114	0.929367	0.885736	0.892274	0.839264	0.726718	0.501563	
	heute	Mittwoch	halb	neun	zehn	vor	acht	Maerz	naechste	Woche	ueber	naechste	Woche	Montag	nach-	mittag	was	machen	Sie	morgen	so	alles	
stdevs	0.385921	0.381661	0.401747	0.427452	0.445238	0.427251	0.424309	0.378805	0.307019	0.417144	0.387502	0.319225	0.394558	0.338657	0.450431	0.486004	0.246239	0.281457	0.301081	0.356199	0.417333	0.391863	
	heute	Mittwoch	halb	neun	zehn	vor	acht	Maerz	naechste	Woche	ueber	naechste	Woche	Montag	nach-	mittag	was	machen	Sie	morgen	so	alles	
Skew	-1.1364	-0.57355	-0.50689	-0.87753	0.371192	0.051031	0.111198	0.682037	2.035544	1.026963	0.98023	1.968218	1.277956	-1.89142	0.720066	-0.00249	-3.48971	-2.50537	-2.56209	-1.90863	-1.01053	0.120362	
	heute	Mittwoch	halb	neun	zehn	vor	acht	Maerz	naechste	Woche	ueber	naechste	Woche	Montag	nach-	mittag	was	machen	Sie	morgen	so	alles	
kurtosis	-0.49354	-1.26989	-1.42811	-1.12921	-1.73491	-1.38271	-1.24246	-1.0431	2.929039	-0.66244	-0.1277	2.494137	0.113119	1.916182	-1.36723	-2.00236	11.25601	5.181604	4.917583	1.841041	-0.74288	-1.47056	