

Evaluating classroom concordancing: the use of concordance-based materials by a group of Thai students

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This paper reports and discusses a study carried out to evaluate the use of classroom concordancing by a group of students at Thammasat University, Thailand, in three respects. First, the learning effect of classroom concordancing was measured using the experimental research design with pre- and post-tests. The experimental group worked on concordance-based materials, whereas the control group was given corresponding non-concordance teaching units focusing on almost the same language items. The results showed that classroom concordancing did not have a marked effect on the learning of language items presented in the materials, or on the learners' ability to transfer context observation skills to similar language tasks. Second, the learners' attitudes towards concordance-based materials were elicited using questionnaires and in-depth interviews. In general, concordance materials were rated highly, particularly as a means of drawing attention to words in context. Suggestions were also made by the learners as to how to improve the concordance materials. Third, the learners' performance when using concordance-based tasks was assessed by analysing one-to-one discussions of concordance materials between the teacher and six selected students. The results suggested that the students were able to make useful generalisations and adopted the data-driven learning (DDL) strategies in dealing with the concordance data. The research offers some support for the efficacy of using classroom concordancing in teaching English in Thailand, but implies that there is a need to adapt DDL tasks for use with Thai students.

Introduction

Classroom concordancing is a teaching approach in which concordance data are used in the language classroom, usually in a language-analysis activity, to help learners notice language pattern

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and use, in particular lexical features and phraseology of words or phrases. This teaching approach is sometimes referred to as ‘Data-driven Learning’ (DDL), that is, the learners are driven by authentic language data presented in the form of concordance lines to act as a ‘linguistic detective’ to find answers to their linguistic queries (Johns 1988; 1991a,b; and elsewhere).

To put it simply, concordance lines are examples of words or phrases uniquely presented in the way that the words or phrases under investigation are aligned in the middle of the page with their left and right contexts. Figure 1 shows concordance lines for the word ‘reason’, which reveal patterning and phraseology such as ‘the only reason for...is that...’ or ‘to have every reason to...’.

Figure 1 Concordance lines for ‘reason’

ual ledgers of the account. For some	reason	Barclays is keeping them under wraps
ft the BBC virtually unmolested, the	reason	being that politicians sent to tame
e in America". Now there's another	reason	for putting Vail at the top of the A
n the Bush Administration offered no	reason	for his surprise withdrawal. Mr Chen
fatter and fatter and that the only	reason	for his weight gain was that he was
tion. On Saturday, Fjortoft had more	reason	for satisfaction, emerging with nine
computer since 1988. One possible	reason	for this dearth of information is th
rpassable acoustic remains the prime	reason	for its musical pre-eminence. "Until
mpionship and I never wanted it. The	reason	for the change was to stop us going
Rail and a Government which for some	reason	has made it more expensive to go to
s at the Halifax, said: "There is no	reason	that we can see for raising interest
many a Scottish fortune has had good	reason	to thank Westminster ever since. I
vents. But it adds: "There is little	reason	to fear that a few suggestive questi
Tony Blair had every	reason	to be cheerful as he enjoyed a New Y
een fully vindicated. There is every	reason	to think that export-led output coul
for such a talented player. Another	reason	was that Caplan is such a doughty pl
in the DIY form, costs, there is no	reason	why the consumer should not be entit
committed suicide, I cannot see any	reason	why they should not go ahead now."
d techno fan as well. But the main	reason	why jungle has remained such a well-

Concordance lines are retrieved and generated from a collection of authentic texts known as a ‘corpus’ (or its plural form ‘corpora’) with the help of a special type of search engine called ‘concordancing software’. Various sources of concordance data are available for language teachers and learners. One can subscribe to a corpus provider such as the Bank of English Corpus (<http://titania.cobuild.collins.co.uk>) or the British National Corpus (<http://>

www.hcu.ox.ac.uk/BNC/), and gain access to a large corpus with its sophisticated concordancing tool. Alternatively one can compile their own corpora and use concordancing tools such as Micro Concord or Wordsmith to create concordance lines. Corpora and concordance lines are also available for free on the Web (See **http://www.corpus-linguistics.de/software/software_onlineconc.html** for useful links). A greater introduction to corpora and English language teaching can be found in Hunston 2002; Aroonmanakun 2002; and sample teaching materials based on concordance data can be seen on Tim Johns' Website at **<http://www.eisu.bham.ac.uk/webmasterials/kibbitzers/index.html>**

Since the infancy of classroom concordancing (Johns 1988, 1991a,b; Tribble and Jones 1990), a number of research papers have been written with the aim of suggesting possible applications of concordancing in different teaching contexts. These include the implementation of classroom concordancing in general English lessons such as concordance-based materials designed to raise awareness of lexis in context (e.g.; Fox 1998; Partington 1998), and the use of concordancing in specific teaching contexts such as in English for Specific Purposes (ESP) and English for Academic Purposed (EAP) (e.g. Thurstun and Candlin 1998; Weber 2001, Bowker and Pearson, 2002, Flowerdew 2003); in literature and stylistics (e.g. Kettemann 1996; Jackson 1997); and in translation studies (e.g. Pearson 1996; Aston 1999; Mallikamas 2001; and various papers in Aston (ed.) 2001).

Some studies have suggested a wide range of options and resources in classroom concordancing such as the use of a small and specialised corpus (e.g. Minugh 1997), a spoken corpus (e.g. McCarthy 1998), a pedagogic corpus (Willis and Willis 1996), a learner corpus (e.g. various papers in Granger (Ed.) 1998, and Granger et al (Eds.) 2002) and parallel corpora (e.g. Wang 2001). Recently there has been a shift from the use of teacher-designed concordance materials towards learner-centred, autonomous concordancing as reported in Bernardini (2000b) and Gavioli (2001).

While these studies have provided useful ideas as to how concordancing could be implemented in the classroom, only a few studies have been carried out to evaluate classroom concordancing empirically, and they either employ qualitative research methods to look into strategies and problems during concordance-based tasks (e.g. Turnbull and Burston 1998; Bernardini 2000a; Kennedy and Miceli 2001; Maneekhao 2001), or quantitative research methods to measure the learning effects of concordancing (e.g. Stevens 1991; Gan et al. 1996; Someya 2000; Cobb and Horst 2001; Watson Todd 2001). Sripicharn (2002) summarises some of these studies and argues that both quantitative and qualitative data are needed, particularly when the aim of research is to explore the efficacy of using classroom concordancing in a particular teaching context.

This paper reports a study carried out to evaluate classroom concordancing using both qualitative and quantitative methods of data collection. The study was conducted with undergraduate students at Thammasat University, Thailand. The evaluation focused on three aspects: (a) the learning effect of classroom concordancing; (b) the learners' attitudes towards concordance-based materials; and (c) the learners' performance when using concordance-based tasks.

1. The learning effect of classroom concordancing

1.1 The subjects

The subjects were two groups of undergraduate students at Thammasat University, Thailand. The students were taking a four-month writing course, and both groups were taught by the researcher. The majority of the participants were second-year, English-major students with four of them majoring in Linguistics. The average age of the groups was 20. The results of the pre-test and the questionnaires given at the beginning of the study indicated that the students were upper-intermediate learners of English and there was no significant difference between the two groups in terms of language proficiency, learning strategies, and attitudes to

the English language.

1.2 Research questions and research methods

The learning effect of classroom concordancing was measured using an experimental research design with pre- and post-tests. The two main research questions were:

1. Did classroom concordancing have an effect on the learning of language items presented in the materials?
2. Did classroom concordancing have a transfer effect i.e. can the learners apply context observation skills to classroom concordancing tasks based on novel concordances and on similar language tasks?

One group of students was treated as the experimental group, and the other group as the control group. The experimental group was taught with a series of concordance-based materials (to be described in 1.3) for the first 15 minutes of each writing class, whereas the control group spent the same amount of time studying non-concordance teaching units, which drew learners' attention to the same language features as presented in the concordance-based teaching units. The pre-test was administered to both groups in the first week of the experiment, while the post-test was completed in the final week of the study. It should be noted here that this experiment did not use the 'true' experimental design, as there was no random selection of the subjects (the subjects had been grouped according to the university registration before the experiment took place).

1.3 The materials

Thirty concordance-based teaching units were used with the experimental group. The materials were written to draw learners' attention to lexico-grammatical language features such as collocation, connotation, multiword units, lexical relations, and clause

structure. Basically the concordance materials provided the learners with corpus-based concordance citations (the concordance data were taken from the Bank of English Corpus-see <http://titania.cobuild.collins.co.uk>), and aimed to encourage the students to deduce meanings or make generalisations based on the given data. The activities ranged from controlled exercises such as gap-filling or matching exercises to open-ended, discussion-based exercises such as identifying similarities and differences in terms of meaning, pattern, and use between two or more sets of concordance lines. Appendix 1 shows a sample concordance teaching unit in which the students were introduced to two formats of concordance lines, and asked to generalise the connotation attached to nouns coming after the verb 'commit'. The complete list of concordance materials used in the experiment can be found at <http://www.geocities.com/tonypgnews/>.

Thirty non-concordance materials were written for use with the control group. They focused on the same language features as their corresponding concordance teaching units. However, unlike the concordance materials which required learners to exercise inductive strategies such as observing similarities and differences or making generalisations, the non-concordance teaching units presented explicit explanations of language points and made use of deductive-learning task strategies such as grammar drills, error correction, sentence invention, or translation. A sample non-concordance teaching unit can be found in Appendix 2. The complete list of the non-concordance materials can be also found at <http://www.geocities.com/tonypgnews/>.

1.4 The pre-and post-tests

The pre-test and the post-test had the same content, the only difference being the ordering of the test items. Part 1 of the test measured the learning of vocabulary and language points presented in the materials (to seek answers to the first research question

mentioned in 2.1.2). The test formats included the traditional single-context, gap-filling exercises and the concordance-based, multiple-context cloze tests (see Appendix 3).

Part 2 tested the transfer effect of classroom concordancing, particularly on the student’s ability to apply context observation skills to tasks with novel citations or to other similar language tasks (to find answers to the second research question). All the test formats used in the part of the test required context observation skills such as guessing meanings of unfamiliar words, identifying correct dictionary definitions of words used in a given context, choosing words to fill in a text-based cloze, and choosing words to fill in multiple-concordance cloze.

1.5 Results and discussion

Table 1 Independent samples t-test for post-test scores
(Part 1 and 2)

		Mean	S.D.	Independent <i>t</i> -test (2-tailed) <i>df</i> = 38; <i>p</i> < 0.05
Part 1 and Part 2 (36 points)	Control group (N=18)	25.00	5.24	<i>t</i> = 0.254 (<i>t</i> α = 2.021) <i>p</i> = 0.801
	Experimental group (N=22)	25.36	3.80	
Part 1 (17 points)	Control group (N=18)	12.22	2.02	<i>t</i> = 0.461 (<i>t</i> α = 2.021) <i>p</i> = 0.647
	Experimental group (N=22)	12.50	1.79	
Part 2 (19 points)	Control group (N=18)	12.78	3.69	<i>t</i> = 0.086 (<i>t</i> α = 2.021) <i>p</i> = 0.932
	Experimental group (N=22)	12.86	2.59	

As shown in Table 1, the concordance group scored slightly higher than the non-concordance group (25.36 to 25.00) in parts one and two taken together, and when both parts are examined individually. However, the t-test at the 0.05 level did not indicate a significant difference. The results therefore suggested that classroom concordancing did not have any marked positive effect on either the ability to learn vocabulary or language points taught in the materials (the answer to the first research question) or the transferability of classroom concordancing skills on novel texts (the answer to the second research question).

The results were not consistent with the positive findings reported in most empirical research carried out to test the effect of classroom concordancing as discussed in the introduction section (e.g. Stevens 1991; Gan et al. 1996; Cobb and Horst 2001). There are possible reasons why the present study did not yield significant results as the other studies did. One of the reasons is that the subjects in this study had quite a high level of English proficiency. The results of the pre-test showed that both concordance and non-concordance groups already obtained high scores in the pre-test, and therefore it was likely that there would be some but not considerable differences in the post-test.

Another possible factor is that the content of the concordance-based teaching units used in the present study was more varied, compared with the materials used in the experiments with positive findings. For example, all the materials used in Cobb and Horst 2001 focused only on vocabulary. By contrast, the concordance materials in this experiment were designed to teach a wide range of language features such as vocabulary; collocation; connotation and semantic prosody; and grammar and patterns. The more varied the materials are, the more difficult it is to test the learning effect of concordancing on different language points at the same time.

The amount of exposure to the treatment may also have affected the research findings. The concordance students worked on the materials for only ten or fifteen minutes in each lesson (simply

because the experiment was conducted as part of the course) so the learners' exposure to the concordance materials was rather limited. The intensity and length of exposure to concordance-based materials may explain why studies in which the entire period of classes consisted of the experimental activities (e.g. Gan et al. 1996; Cobb and Horst 2001; Someya 2000) were likely to yield significant results. Moreover, the subjects may have needed a longer period of exposure to the concordance materials to develop context observation skills on novel texts which were measured in the second part of the test.

The insignificant difference in post-test scores between the two groups may also have resulted from the fact that the materials and/or associated learning methods used with the control group and those introduced to the experimental group were not sufficiently different. In studies with positive results, such differences are very clear such as 'gap-filler' vs. 'concordance-based vocabulary exercises' (Stevens 1991); or 'business-writing tasks with online concordancer' vs. 'business-writing without online concordancer' (Someya 2000). By contrast, there were some overlapping features in the concordance and non-concordance exercises used in this study. For example, the explicit explanations given to the non-concordance students were mainly based on generalisations made from concordance lines given to the concordance students, and therefore both groups of students learned the same language features and both performed well on the post-tests, although the concordance group used inductive strategies whereas the non-concordance group used deductive strategies.

This can be related to research into the effect of inductive and deductive learning in general. Fotos (1993), for example, reports that both 'teacher-fronted' grammar lessons and Consciousness-Raising (CR) tasks have a similar effect in helping learners to notice the target language structure in subsequent tasks. This may partly explain why in the present study the 'teacher-fronted' grammar lessons (non-concordance materials) seemed to be as

effective as CR tasks (concordance materials) in promoting noticing of the target items.

Finally, cultural factors should have been taken into account. In a Thai teaching context, most students get used to being spoon-fed by the teacher and therefore seem to do well in a teaching context where explicit explanations are given by the teacher or in the materials. This may partly explain why the non-concordance group who learned deductively from rules and explanations seemed to learn the language features presented in the materials as effectively as their concordance peers who inductively made generalisations based on concordance data.

To sum up, although classroom concordancing did not seem to have a measurable learning effect in this particular study, it does not mean that it should not be implemented in a Thai teaching context at all. Some other factors such as learners' attitudes towards the concordance materials and learners' performance when working on the concordance tasks should also be considered as part of the evaluation, which will be reported and discussed in Section 2 and Section 3 respectively.

2. Learners' attitudes towards concordance-based materials

2.1 Research questions and research methods

Since the subjects were using concordance-based materials for the first time, it was also interesting to explore the learners' attitudes towards this new type of teaching materials. The main research questions for this aspect of evaluation were: how did the students perceive the concordance materials?, and what suggestions were made as to how to improve such materials?

To elicit such information, the students in the experimental group were given questionnaires asking them to evaluate the concordance materials. To summarise, the questionnaire consisted

of three sections. The first section elicited general information about the learners. The second section took the form of an agreement scale on statements concerning various aspects of the teaching units. The final section consisted of some open-ended questions designed to ask for extended comments or suggestions.

In-depth interviews on the topics presented in the questionnaires were also carried out with six students from the concordance group in order to obtain more detailed comments on the materials, particularly suggestions for materials improvement. The six students were selected at the beginning of the experiment. Based on the pre-test results, two of them (S1 and S2) were randomly chosen from the low-scorers, two (S3 and S4) from the mid-scorers, and the other two (S5 and S6) from the high-scorers.

2.2 Results and discussion

Table 2 Summary of the questionnaire results

1= Agree

2= Neither agree or disagree

3= Disagree

Topic of evaluation	1(%)	2(%)	3(%)
Group1: Concordance-based materials			
Statement 1: The units are interesting	72	23	5
Statement 2: The format or presentation of the units is good.	73	27	0
Statement 3: The units are not too long and can be done in 10-15 minutes.	72	23	5
Statement 4: The units are not difficult to complete.	68	27	5
Statement 5: The instructions are easy to follow.	82	18	0
Group 2: Concordance lines			
Statement 6: The concordance lines are not too difficult to read.	68	27	5
Statement 7: The concordance lines are well chosen.	68	23	9
Statement 8: Observing concordance lines is an interesting way of learning English.	72	23	5

Table 2 Summary of the questionnaire results (continued)

1= Agree

2= Neither agree or disagree

3= Disagree

Topic of evaluation	1(%)	2(%)	3(%)
Group 3: Types of teaching unit			
Statement 9: The discussion-based part of the units is interesting	59	41	0
Statement 10: The exercise-based part of the units is interesting.	50	50	0
Group 3: Relevance to learners' syllabus			
Statement 11: The units help you improve your writing skills.	72	5	23
Statement 12: The units are relevant to EG 232* writing course.	64	0	36
Statement 13: The units should be used in every EG 232 lesson.	68	27	5
Group 4: Usefulness (language features and language skills)			
Statement 14: The units help you improve your reading skills.	59	41	0
Statement 15: The units help you learn new vocabulary, idioms, or expressions.	100	0	0
Statement 16: The units help you learn vocabulary and its usage.	100	0	0
Statement 17: The units help you learn grammar or structure.	77	9	14
Statement 18: The units help you learn meanings of words (e.g. literal/metaphorical, or connotation)	100	0	0
Statement 19: The units help you learn about words and context (collocation)	91	9	0
Statement 20: The units help you learn to guess meanings of words or guess missing words from context.	95	5	0
Statement 21: The language points selected are useful	82	18	0

* EG 232 is a subject code for 'Paragraph Writing', which is an intermediate writing course.

In this section, the results of the questionnaires (as summarised in Table 2) and the results of the interviews will be presented and discussed together under the following topics: (a) concordance-based materials and concordance lines in general; (b) usefulness; (c) relevance to the learners' main syllabus; and (d) suggestions for materials improvement. The first three topics will address the first research question (learners' attitudes), and the last topic will respond to the second research question (learners' suggestions).

(a) Concordance-based materials and concordance lines in general

The results suggested that most of the students perceived the concordance tasks as interesting, not too difficult and could be manageable within the assigned time. The data from the in-depth interviews also supported the questionnaire results. According to the interviews, the students thought that size and length of the teaching units were appropriate. Most of the materials could be finished in 10-15 minutes, though some teaching units might take longer than some other units depending on the type and/or complexity of task, and the level of vocabulary.

Regarding the concordance lines, most of the concordance students thought the concordance lines presented in the teaching units were well chosen and were not too difficult to read. Also, the majority of the students agreed that observing concordance lines is an interesting way of learning the target language. During the in-depth interviews (see Extract 1), a student reported that dealing with concordances for the first time was rather difficult. However, she became more familiar with reading the citations after going through a few lessons.

Extract 1

But I must admit I found reading concordances very boring at first because there was quite a lot to read. But when you read them more and more, it was getting easier cos you were getting more familiar with the materials. [S6]

Some negative feedback on concordance lines was also given. One of the main arguments against concordance lines is that the concordance lines are not complete sentences, which can be confusing and may not provide the appropriate length or span of context the students may need (see Extract 2).

Extract 2

Well, I'm more familiar with that but *I don't like the fact that the lines are chopped. I mean, they are not complete sentences.* It's confusing to read. Even when we know the vocabulary, the context is not long enough, which is even more confusing. I would prefer complete sentences. [S1]

(b) Usefulness

The questionnaire results suggested that the students clearly perceived the concordance materials as an effective way of drawing attention to the notion of lexis in context. The whole class agreed that the teaching units helped them learn new vocabulary and idioms, vocabulary and its pattern and use, and meanings of words (e.g. literal/metaphorical meanings and connotation). The majority of the students thought that they learned more about collocation and that working on concordance materials helped them improve the skills of meaning deduction such as guessing meanings of words or guessing missing words from context. When asked what they think they learned from the materials (in an open-ended question at the end of the questionnaire), most students reported that they learned how words are used in different contexts and how to choose appropriate words. The results showed that the students were aware of the strength of concordance-based materials i.e. concordancing makes it easy to notice phraseology of words and how words are used in context.

The interviews also yielded positive results in terms of usefulness of concordance materials. The data show that the students were aware of the advantages and distinctive features of

concordance-based materials i.e. most of the interviewees were aware that concordance-based materials draw upon the inductive way of learning the target language. Some advantages of inductive learning as opposed to rote learning and spoon-feeding were also pointed out, which can be seen in the following extract.

Extract 3

I think this learning method is very good. *I think it's better to let the students think and learn by themselves instead of being spoon-fed by the teacher all the time.* I think it's very much in line with the teaching methodology I've learned. Sometimes it would work better if the students learn or find out the rules by themselves from examples. [S2]

One student reported that working with concordances helped her to guess meanings of difficult words, which is one of her vocabulary learning strategies (see Extract 4).

Extract 4

And it also helps with guessing meanings of difficult words. *The more you read the concordance lines, the more you can guess the meaning of words.* I'm used to this 'guessing-from-context' technique...and I've been using this method. Sometimes my guesses are correct, sometimes not. *But I think we can apply that technique in doing these concordance exercises.* [S6]

Some points were also raised concerning word usage and word choice. Two interviewees said concordance materials allowed them to pay close attention to common words. They also learned to observe similarities and differences between words (e.g. between 'suggest' and 'recommend') and make appropriate word selection.

Extract 5

Yes. I think I'm a bit more careful with choices of words. Before this, I didn't notice that a word is used with a particular group of words. *These exercises have taught me to be more careful with the selection of words according to sentences or contexts.* [S3]

Extract 6

Yes, they are quite useful. The words are quite common but we seem to take things for granted. For example, the words 'suggest' or 'recommend' are very common but not many students think about them carefully. We know all the common words but we don't actually know the use or pattern. *So these units are very useful because they draw our attention and help us observe how a word is actually used.* [S6]

It should be noted, however, that 41% of the students did not strongly agree that the teaching units were useful for practising reading skills. A possible explanation is that some students may associate reading practices with the reading of whole texts (e.g. news reports or short passages) rather than the reading of concordance citations, although the skills of deducing meaning from context as mentioned above can also be useful for reading in general.

(c) Relevance

In the 'relevance' group, the students were asked if they thought the concordance teaching units were relevant to the writing course they were taking. The questionnaire results showed that the majority of concordance students indicated that the teaching units helped improve their writing skills. Most of the students also perceived the concordance materials as relevant to the writing course and that they would like the teaching units to be used in every lesson.

Such positive feedback was also found in the interviews. For example, two students thought the materials could help them with their writing. They argued that the teaching units helped them to learn the correct pattern and use of a word, which in turn helped them to use words and phrases correctly, and avoid making mistakes in their essays. They could even use some interesting expressions they found in the citations when they wrote essays. Here are some of their comments.

Extract 7

Yes. I think it's very relevant to the writing course. *If we know the correct pattern or use of a word, we can use it correctly in our writing.* In the exams, we may be asked to spot mistakes and now we know what the mistakes are and what the correction should be. [S4]

Extract 8

I think they help with the writing course. At least you learn the patterns and uses and structures of words. *The citations themselves are also useful. You can use some of the interesting citations in your writing.* [S6]

However, the questionnaire results showed that not all the students agreed that the teaching units were useful for the writing course. For example, 36% of the students did not clearly see the relevance, and 5% of the students did not want to work on these concordance materials in every lesson. In the interviews, one student said using concordances was irrelevant to the writing course as some of the highlighted vocabulary was not useful for writing assignments (see Extract 9).

Extract 9

For me, I couldn't apply the materials to my writing assignments. ...I think it would be more useful for reading courses.

Like the phrase ‘on earth’ here, I’ve never used the phrase in my writing tasks. It’s not quite relevant to the writing tasks you’ve assigned in class. [S1]

(d) Suggestions

In the open-ended question section of the questionnaires and in the interviews, the students were asked to make suggestions as to how to improve the concordance materials. In terms of format and presentation, some students suggested that the teaching units should be made more interesting by including other types of language data such as jokes, or by making the teaching units more graphically attractive.

In terms of complexity, one interviewee said some units were so easy that the students knew the answers straightaway before making any attempt to look at the language data. On the other hand, some units were too difficult and contained too many concordance lines, which put the students off. It is therefore suggested that the tasks should be designed so as to have an appropriate level of task difficulty. It was also suggested in the interviews that a reasonable amount of time should be given for each task and that pair-work may be more effective than whole-class discussion if time allows.

In terms of language points presented in the materials, the students wrote in the questionnaires that more examples should be given to allow learners to learn more vocabulary, synonyms, and different meanings and uses of words. More problematic words for Thai students should also be taught in the materials. It was also suggested in the interviews that the materials should be made more relevant to the students’ main syllabus, which in this case was the writing course. For instance, the language focus should be on confusable words or key words in a writing topic, or words suggested by the learners.

Extract 10

I think because we didn’t use the words focused on in these

units in our writing assignments. *It would be better if you say, ok, use the words we learn today to write something on a particular topic, so you can find out if we are able to use the words correctly or not.* [S3]

Extract 11

But you should also pick some words you often use in our writing, or some words that can be confusing. I wanted to ask you about the usage of some words as well but we didn't have time in class. So I think it may be useful if you ask the students what words they want to learn and write the materials focusing on those words. [S3]

Some suggestions are concerned with learners' motivation. For example, one interviewee pointed out that introducing the units as pre-lesson activities as practised in the experiment can create a problem, as the learners may not take them as seriously as they do with quizzes or exams. Another student said that one of the reasons some students did not respond well to concordance materials was that some learners lacked motivation or were not familiar with looking at data and sharing their opinions to the class. One solution suggested was that the teacher should try to encourage the learners to take part in the discussion and report their findings to the class, as S4 said:

Extract 12

I think it's good to think first by ourselves, but you shouldn't put too much pressure on us. Give us enough time to finish the exercises, and don't make us feel bad if we don't come up with a good answer. Also you should encourage us to shout out the answers. [S4]

Another point of recommendation is about the role of the teacher in the concordance activity. Most interviewees suggested

that the teacher still has a role to play when concordance-based materials are being used in class. The students feel they should be encouraged to find answers by themselves first, but in the end they still need confirmation and perhaps some conclusions from the teacher. Here are some comments about the role of the teacher in the concordance classroom.

Extract 13

Definitely. *We need the teacher's conclusions because otherwise if we make wrong observations, we'll get them all wrong...* We are not confident of our own answers. We need confirmation from the teacher... We do the exercises first and you give explanations afterwards. You didn't give enough conclusions. Sometimes we know the meanings but we don't know how to use the words appropriately. [S1]

Extract 14

I think we should do it by ourselves first, so the teacher knows the points we don't understand and can explain those points to us... I think it's necessary cos it would help us to understand the points more clearly. And we can check if we have the correct idea or not. [S3]

Finally, some comments were made as to how to implement concordance materials in general English lessons. First of all, it was suggested that classroom concordancing should not be regarded as the only means or technique of presenting language data to the learners. Concordance-based materials therefore should be used together with some other teaching resources or materials such as songs or newspapers.

To sum up this section, the results showed that most of the concordance students perceived the concordance-based teaching units as useful, particularly as a means of teaching lexis in context. Suggestions made by the interviewees can be used to make concor-

dance materials more relevant and interesting in future classes or studies. However, it should be noted here that the fact that the learners had positive attitudes towards concordance materials did not mean that they would be able to perform well on the tasks introduced to them for the first time. Therefore, it is also worth assessing the performance of the students in handling such tasks, which will be discussed in the next section.

3. Learner's performance when using concordance-based tasks

3.1 research questions and research methods

This third aspect of evaluation was aimed at assessing the learners' performance on concordance-based tasks. The aim was to find out how much the students could draw conclusions from the given concordance lines, and what strategies the learners used in the data observation process.

The six students (described in 2.1) were asked to make six appointments with the teacher throughout the period of the experiment, so each student came to see the teacher approximately once every two weeks during the four-month semester. Each session lasted about 30 minutes and the discussions were tape-recorded with the learners' permission. Six concordance-based teaching units were selected from the 30 teaching units used in the experiment. The teaching units were chosen on the basis that they contained some open-ended, discussion-oriented questions that would prompt the learners to make their generalisations based on the concordance data.

3.2 Results

As space is limited, this section will present only observations the six students made in one of the teaching units, Unit 23, where the language focus was on different collocates of 'conduct'

and ‘perform’. The summary of the learners’ answers is presented in Table 3 below.

**Table 3: Summary of the learners’ observations,
Unit 23: ‘conduct’ or ‘perform’**

1. What do all the activities in the ‘conduct’ group have in common?	
decided to turn the tables and made it easier for many people to skills and techniques necessary to to register the students. To for council. Tests have been He says the investigation was According to a nation-wide poll Rates. According to the study,	conducted a survey to find out whether conduct experiments on animals, conduct research in the social sciences conduct the examination of the students conducted which indicate there is potential conducted because the expanding market for conducted by a Los Angeles firm, 77 per conducted by the Building Owners and

Students	Observations
(S1)	<ul style="list-style-type: none">• They are all to do with education, and business.• It’s partly academic.• When you conduct something, you’ve got to control it. You do it and control it at the same time.
(S2)	<ul style="list-style-type: none">• All to do with education and quite formal.
(S3)	<ul style="list-style-type: none">• Experiments• There is process or procedure involved.
(S4)	<ul style="list-style-type: none">• They are not really actions. We don’t have to actually go out to do a survey. Or if we conduct an experiment, we don’t have to take obvious actions. We can do some calculations as an experiment. It doesn’t have to be something like chemistry that we have to actually mix chemicals.• Also a kind of research, or something to do with academic work or paper work.• When people conduct something, we know that they are doing something but we don’t know exactly what they are doing.
(S5)	<ul style="list-style-type: none">• Hard to explain. Just use sense or intuition.• The activities conducted involve process.
(S6)	<ul style="list-style-type: none">• We conduct something formal and quite serious.• These activities have a kind of limit or time frame. We got to finish it within the time frame. We know what and when to do.• In some lines, the subjects are left out, so we don’t always know ‘who’ conducts something. We just know the activities conducted.

2. What do all the activities in the ‘perform’ group have in common?

was reached he told us: INK performed a very professional job. They
Jos Hubers who organised the event performed a fantastic role as interpreter,
defined as the inability to perform all duties of the insured's own
a chimpanzee to perform open heart surgery. After lots of
the model, by requiring the Cray to perform some operation that overtakes
They contacted me and I agreed to perform a professional evaluation of
the world. In 1974, the group performed a farewell concert, but seven
in the war with music and drama performed in the evenings. But in

Students	Observations
(S1)	<ul style="list-style-type: none">• Entertainment, operations, and jobs• When we perform something, we actually do it by ourselves.
(S2)	<ul style="list-style-type: none">• If we say ‘to perform an activity’, the native speakers would probably still understand, though they may find it awkward because ‘perform’ and ‘interviews’ don’t go well together.• ‘perform’ is something to do with ourselves, something coming from ourselves.
(S3)	<ul style="list-style-type: none">• All the activities are careers.
(S4)	<ul style="list-style-type: none">• Something to do with actions or movements.• We can actually see what people perform. We can tell what they are doing.
(S5)	<ul style="list-style-type: none">• Hard to explain. Better use intuition.
(S6)	<ul style="list-style-type: none">• We perform a kind of duty, and also concerts or songs.• The activities are not very serious.• Sometimes just one person performs something.• We often know who performs something.

The results show that the students are able to make useful and interesting generalisations about the differences of the two words. The activities conducted are to do with education, a kind of research, or paper work (S1, S2, S4). Such activities are quite formal or serious (S2, S6), and involve a process (S3, S5). S6 also made an interesting point about a sense of limit or time frame associated with activities people conduct: *‘These activities have a kind of limit or time frame. We have got to finish it within the time frame. We know what and when to do.’* (S6). The answers concerning the verb ‘perform’ also conformed with the teacher’s own observations. The activities performed involve various kinds of

entertainment, jobs, or duties (S1, S3, S6). These activities are not very serious (S6) and have something to do with actions or movements (S4).

One student (S3) also showed an awareness of verb-object collocation. She noted that wrong collocation does not seriously affect the meaning of the phrase, as she said *'If we say 'to perform an activity', native speakers would probably still understand, though they may find it awkward because 'perform' and 'interviews' don't go well together.'*

Some unexpected but interesting observations are also worth mentioning. While the main focus of the unit was on the verbs and the following noun collocates, some students also had close examination of the 'subject' in each citation. S1 and S2 pointed out that when people perform something, they do it by themselves and have full control of it. A similar observation was also made in S4's answers. She noticed that sometimes we do not know 'who' conducts something as the subject of 'conduct' is sometimes left out, while we often know who performs an activity.

Another unexpected observation was that the activities conducted, as opposed to the activities performed, are not 'real' actions (S4). To interpret her answers, the verb 'conduct' is probably more abstract than the verb 'perform'. For example,

Extract 15 [Unit 23, S4]

'We don't have to actually go out to do a survey. Or if we conduct an experiment, we don't have to take obvious actions. We can do some calculations as an experiment. It doesn't have to be something like chemistry that we have to actually mix chemicals.'

3.3 Discussion

When looking at the learners' observations, the general impression was that the six students were indeed advanced learners

of English. The students showed they were able to make observations on the basis of concordance data, although they were new to concordance-based exercises. The students were also capable of responding to the less-controlled, discussion-type questions such as 'What do 'X' and 'Y' have in common?', which requires a high level of data observation skills and linguistic competence.

The level of pre-test performance did not seem to correlate with the ability to engage in the one-to-one discussions. The context clues identified, and the answers given by S1 and S2, who were among the low pre-test scorers, were in many ways similar to and as sophisticated as those given by the high-scorers such as S5 and S6. This may lead to a possible conclusion that students with less language proficiency can also work effectively on concordance-based teaching materials, particularly in the one-to-one form of classroom concordancing.

The findings also present evidence in support of the data-driven learning (DDL) approach discussed in Johns (1991a,b). The strategies the learners used in these one-to-one meetings corresponded to the basic DDL strategies of 'Identify-Classify-Generalise' identified by Johns (1991a: 4). Johns reported that his students were able to identify, classify, and generalise the differences between 'convince' and 'persuade', based on the given concordance citations. Similarly, the six CONCORDANCE students here were also able to identify, classify, and generalise, for example, differences between 'conduct' and 'perform' and differences between collocates of different verbs and adjectives.

In terms of learners' findings, the observations reported in this section support Johns's argument that at times some of the students' answers or explanations are unexpected and are even more sophisticated than those provided by the teacher. For example was a student's observation that we often know 'who' performs something, but we seem to pay more attention to the 'activities conducted' than the persons who conduct them. These unexpected answers underline a distinctive aspect of DDL, that is, 'the data is

primary’ and that the learners ‘often notice things that are unknown not only to the teacher, but also to the standard works of reference on the language’ (Johns, 1991a: 3).

Despite such encouraging results, limitations of working with concordance data should be taken into account. It was clear that the data presented in the materials were limited, and there seems to be a danger of over-generalisation on the part of the learners, partly because the learners do not have native speaker intuition to balance positive evidence presented in the concordance lines with negative evidence such as overlapping cases or exceptions.

One way of dealing with such problems is to make sure that the concordances chosen to write the materials represent typical uses and patterns of the language rather than being deliberately manipulated to represent what is easy for learners to notice or to illustrate particular language points. Collaboration between the teacher and the students as reported in this section may be a great help where there is a potential danger of over-generalisation by giving comments or pointing out exceptions or ‘possible-but-not-typical cases’.

4. Conclusion

To sum up, the results of the three aspects of evaluation were quite positive. Although the learning and transfer effects of classroom concordancing were not reported to be significant, the qualitative data suggested that the students had positive attitudes towards concordance-based tasks and were aware of the strength of classroom concordancing as a tool to raise consciousness of pattern and use of the target items. The one-to-one discussions also suggested that the six concordance students, who represented various levels of proficiency, were able to make useful generalisations from the concordance data. The research has shown that classroom concordancing can be successfully implemented in the Thai teaching context, although some modifications are needed on the basis of

learners' suggestions. For example, teacher-designed concordance-based tasks particularly when used in teacher-learner discussions may work better with Thai students than autonomous concordancing. Also, as the students themselves suggested, concordance-based materials should be adapted to meet learners' needs and integrated into the learners' syllabus rather than being used as isolated language focus activities.

Another issue arising from the research is that classroom concordancing is not a magic novelty that always has advantages over traditional teaching approaches. The findings have suggested that classroom concordancing seemed to have an advantage when used to draw learners' attention to the notion of lexis in context such as collocation and language pattern, but other traditional, deduction-oriented materials may also help learners to learn vocabulary and grammar in general.

Finally, the present study has shown that research into the effect of classroom concordancing can benefit from using both types of data collection. If only quantitative data had been collected, it may have been concluded that classroom concordancing had not worked well with this group of Thai students. However, the qualitative data suggested that in general the use of classroom concordancing (for the first time) with this group of Thai learners was encouraging, and that the conclusion that classroom concordancing has no effect at all seems to be rather superficial and premature.

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Appendixes

Appendix 1: A sample concordance-based teaching unit

Unit 1: An introduction to concordances (1)

What are concordances?

Concordances or concordance lines are examples of a word or a phrase with some context on its left and right sides. There are two main types of concordances. The first type is called ‘**Key Word In Context**’ or ‘**KWIC**’. In this format, the key word is placed in the middle of each line. Here are examples of KWIC concordance for the word ‘commit’.

for divorce, yet we know that men **commit** adultery more often, which suggests
 their blackness that has made them **commit** crime, but we cannot ignore the
 not accept the charge that he might **commit** fraud against Simex by failing to
 fat German know that I will **commit** hara-kiri with my Eurosceptics
 the jury to decide if he intended to **commit** murder and grievous bodily harm.
 kidnapping and conspiracy to **commit** rape. Police photographs taken
 CHILDREN aged 10 to 13 who **commit** robbery, rape, assault, burglary
 conspiracy to defraud, conspiracy to **commit** theft, false accounting, and VAT
 fitted his theory. He wanted to **commit** suicide, leaving orders

The second type is called ‘**full-sentence**’ concordance. In this format, the key word is presented in a full /complete sentence. Here are examples of full-sentence concordance for the word ‘escape’.

Some Jews in other situations did manage to **escape** from the Nazis.
 He never learnt how to love his father, but he learnt how to **escape** from him.
 Nor can we **escape** from the monster.

What can you observe from concordance lines?

Now, let have a look again at the concordance lines for ‘commit’, and answer the questions.

1. divorce, yet we know that men **commit** adultery more often, which suggests
2. their blackness that has made them **commit** crime, but we cannot ignore the
3. accept the charge that he might **commit** fraud against Simex by failing to
4. jury to decide if he intended to **commit** murder and grievous bodily harm.
5. kidnapping and conspiracy to **commit** rape. Police photographs taken
6. CHILDREN aged 10 to 13 who **commit** robbery, rape, assault, burglary
7. to defraud, conspiracy to **commit** theft, false accounting, and VAT
8. fitted his theory. He wanted to **commit** suicide, leaving orders
9. fat German know that I will **commit** hara-kiri with my Eurosceptics

1. What do all the underlined words have in common? What do people normally ‘**commit**’?
2. How are the actions in line 8 and line 9 different from the others?

Appendix 2: A sample non-concordance teaching unit

Unit 1 ‘They just committed marriage’

1. According to the *COBUILD* Learner’s Dictionary, if someone commits a crime or a sin, they do something illegal or bad. Look at the following table and circle the actions or activities that you think people would commit. (You may use a dictionary if you don’t know some of the words)

business	murder	experiment	party	rape	suicide
robbery	concert	fraud	examination	divorce	crime
adultery	survey	assault	theft	accident	

2. How do you translate the word ‘**commit**’ into Thai? Are there different translations for the word ‘commit’ when used with different actions or activities?
3. How would you rewrite the sentence ‘*They just committed marriage*’?

Appendix 3: Concordance-based cloze as a test format used in the tests

Section 3

Directions: Choose the most appropriate word or phrase that fits all the blanks in each set of lines. (16-20)

16.

Angela Davis's defense team had _____ a survey of black sentiment in
says. The poll of 1,060 voters was _____ after the publication of the
That is the finding of a new study _____ in America which looks at food
This chapter draws on research _____ at the Centre for Communication

- | | |
|-----------------|--------------|
| a) committed | b) conducted |
| c) experimented | d) performed |

17.

that an inspector had been appointed to _____ the case. He will take statements
send a mission of inquiry to Jerusalem to _____ the killings on Monday. The South
recently set up a special task force to _____ the matter, but opposition
to send his own mission of enquiry to _____ the incident and recommend ways of

- | | |
|---------------|--------------|
| a) look after | b) look out |
| c) look for | d) look into |

18.

we are ever going to _____ a solution that will satisfy everybody.
Committee do plan to _____ an alternative to Mr. Clinton's proposal by
been desperately trying to _____ a plan to save their company. They thought they
the Vienna meeting will _____ recommendations suggesting to the UN Secretary-

- | | |
|-----------------|----------------|
| a) come up with | b) put up with |
| c) bring about | d) lead to |

19.

used by humans when working with _____ materials. The arm is controlled
failing to protect workers from _____ chemicals, allowing injuries to
Smog is broadly made up of two _____ substances: oxides of nitrogen,
of the fact that evidence linking _____ waste with harm to human health

a) hectic

b) tedious

c) horrific

d) hazardous

20.

and saw he was beaten. There was no way _____ he was going to beat me. This was
to realize,"he warned, "that no power _____ can protect him from being bombed.
are obliged to ask each other what _____ has happened to our babies? How come it
Then it will all seem different. Why _____ has the world suddenly collapsed?"

a) to death

b) at death

c) on earth

d) in earth