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Starting to Harvest in Larger Chunks: Exploring How Low-intermediate Learners Become Lexically Empowered

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Chapter Six

Starting to Harvest in Larger Chunks: Exploring How Low-intermediate Learners Become Lexically Empowered

Andy Barfield, Chuo University, with Zorana Vasiljevic, Bunkyo University, and Mary Jo Pichette, Kumon Leysin Academy of Switzerland[1]

Abstract

This chapter explores with a group of low-intermediate first-year students different changes in learners' vocabulary development as they move from focusing on single lexemes to noticing, recording, and using multi-word lexical phrases. The exploration also analyzes the type of lexical phrases that learners initially notice and consider important and useful. In qualitative terms, the study seeks to understand the values that different learners attach to becoming lexically phrase competent, and raises different questions about the development of lexical phrase competence, and learners' membership of different communities of use and their changing identities as they become lexically phrase proficient.

要旨

本章では中級レベルの大学１年クラスにおける学習者の語彙発達を研究し、学習者の語彙使用が単一語彙素に集中していた段階から語彙を認識・記録し、複数語のフレーズを使用するまでの発達過程を分析する。さらに、学習者が初期段階で活用できるものとして認識する傾向にある語彙フレーズの種類も分析する。質的分析としては、各学習者が語彙フレーズの使用に付与する多様な価値を探求した上で、語彙フレーズの発達に関する更なる課題を提示し、各学習者の語彙フレーズ発達課程への所属コミュニティの影響と学習者自信のアイデンティティの変容についても言及する。

Key words

lexical phrases, lexical phrase development, lexical phrase capacity, learner development, communities of use
語彙フレーズ、語彙フレーズ発達、語彙フレーズ能力、学習者ディベロップメント、コミュニティにおける言語使用

Chapter Six

Starting to Harvest in Larger Chunks: Exploring How Low-intermediate Learners Become Lexically Empowered

Andy Barfield, Chuo University, with Zorana Vasiljevic, Bunkyo University, and Mary Jo Pichette, Kumon Leysin Academy of Switzerland[1]

Part One

Introduction

It's a question that I keep returning to, and one that my students are inevitably interested in too: How best to develop their English vocabulary and use? Surprisingly they often report that they have rarely, if at all, had opportunities to talk about this with their teachers or other students, despite the vast amount of time and effort they have invested in learning large quantities of individual words as preparation for university entrance exams in Japan. But is it just a question of vocabulary? In previous explorations (see Barfield, 2009b, 2012a, 2012b), I have looked at high-intermediate and advanced individuals' changing vocabulary practices, usually with an eye to qualitatively understanding their second language collocation development. The inquiries revealed how students will, over time, start to focus on choosing and using collocations that they believe their peers will understand, and how such changes are closely linked to questions of identity and belonging. Students may opt to eschew an idealized "native-speaker" standard in favour of transparent and non-idiomatic collocations to communicate their ideas within the particular classroom communities that they participate in (Barfield, 2009b, pp. 213-217). There are strong connections here to the position that formulaic language use enables individuals to achieve solidarity with others in their community, to involve them in achieving mutually beneficial goals, and to promote their survival and development as a community (Wray, 2002, 2012). Indeed, given the benefits that L1 users derive from using multiword units, Wray wonders why we do not "... as taught L2 learners make a beeline for every opportunity to identify mappings at the multiword level" (Wray, 2012, p.236) and why "learners do not feel more empowered to harvest L2 input in larger chunks in the pursuit of painless routes to effective communication" (Wray, 2012, p.236). How might low-intermediate students see such questions? Are they, as the research further suggests, bound to use "language creativity as a starting point for language production" (Henriksen, 2013, p.40) and hold fast to analytically breaking down lexis into individual items before they then re-assemble phrases from those items? What happens when they start moving from focusing on single words to noticing and recording multiword phrases? How do learners interpret this fundamental shift? And what do they see as the wider benefits of becoming phrase-based in their vocabulary development? These are some of the more general issues that I set out to explore with a class of low-intermediate students in the 2014 academic year.

Previous research into learners' phrase-based learning

Until recently studies of L2 phrase-based learning in the wider field (see Henriksen, 2013, for a comprehensive review) tended, for the most part, to be quantitatively oriented and short term, using decontextualised measures far removed from the realities of learners' phrase-based vocabulary practices (but, for practice-based inquiries, see Yang & Hendricks, 2004; Coxhead, 2008; Barfield, 2009b; Peters, 2009; Yang & O'Neill, 2009; Selivan, 2012). Many of those "practice-remote" investigations were moreover carried out with advanced proficiency learners. L2 collocation studies that have looked across different proficiency levels have used experimental designs (e.g., Gitsaki, 1996; Bonk, 2000; Barfield, 2009a; Revier, 2009) to provide a range of interesting insights, but these also remain at some distance from the particular practices of lower proficiency learners in specific learning and use contexts.

Despite this marked separation between research and learners' own evolving practices, it is nevertheless significant that in recent years lexical research studies have increasingly referred to learner autonomy as a necessary condition for the learner's phrase-based lexical development (Nation, 2001, pp. 394-404; Eyckmans, Boers & Stengers, 2007; Lewis, 1993/2012). Indeed, the originator of the Lexical Approach, Michael Lewis, argues that the teacher's main purpose is to foster learner autonomy by helping learners develop appropriate strategies: "You won't be there outside the classroom. Your whole purpose is your learners' autonomy and your own redundancy. Encourage strategies which help learners to help themselves..." (Lewis, 1993/2012, p.193). In a similar vein, it is commonly agreed that "autonomous chunk recognition" (Eyckmans, Boers & Stengers, 2007) involves phraseological consciousness raising for learners, which "will help them pick up useful chunks from the L2 discourse they happen to encounter outside the classroom" (Eyckmans, Boers & Stengers, 2007, p.88). While few might initially disagree with this claim, it is important to keep in mind the contradictions that arise when autonomous vocabulary development is investigated under tight experimental conditions. Often, the autonomous dimension is seen more or less in terms of the training of a fixed discrete skill that can be applied out of the classroom, rather than as a process of capacity development that is socially mediated and that itself changes and fluctuates over time as chunk noticing does too—and which makes it rather unlikely that autonomous chunk recognition can be observed or measured in a single intervention.

In acknowledgement of the complexity of understanding learners' processes of lexical development, there has in the last few years been a slight shift to longitudinal case studies that follow "individual learners over time" (Henriksen, 2013, p.46), where different inquiries (e.g., Barfield, 2009b; Bell, 2009; Li & Schmitt, 2009; Fitzpatrick, 2012) have illuminated great fluctuations and variations within and between learners. The last three of these investigations focused on international students' lexical development as they studied at universities in the UK—a context of proficiency, learning, and use quite different from that of low-intermediate first-year undergraduate students in Japan, where the degree of repeated exposure and opportunities to encounter, use, and recycle L2 multiword units are much more constricted.

To explore some of these gaps, I present in this chapter an initial investigation into how low-intermediate learners, in their first year at a Japanese university, start to move towards managing their phrase-based lexical development in self-directed/autonomous ways. What are some key processes that such learners may initially go through in their phrase-based lexical development? How do they develop their ways of recording lexical phrases when they are asked to focus on multi-word combinations rather than individual words? What value do they attach to developing and negotiating their phrase-based vocabulary practices with each other within particular classroom communities of use? These are the learner development issues that I would like to consider with my two co-authors, Zorana Vasiljevic and Mary Jo Pichette, about different issues that the quantitative and qualitative analyses presented in this chapter raise. My hope is that our discussions will lead to a

clearer theoretical and practical appreciation of low-proficiency students' "lexical harvests"—a metaphor that I have adapted from Wray (2012) to emphasize the agency of lower proficiency learners in identifying, gathering, and reproducing lexical phrases to nurture their L2 lexical development. In this study I use the term "lexical phrase" to refer to multiword units. Lexical phrase has the benefit of being less precise and more flexible than "collocation" and may cover other types of multiword units such as "institutionalised expressions" (Lewis, 2012, p.94) that students may start noticing later.

Situating the case study

This exploratory case study involves a class of 24 first-year, low-intermediate law, politics and international law and business majors in an Introduction to Communication and Research course. "Low intermediate" here means a TOEIC score of up to 465 at the start of the academic year in April, which was the range used for placement in this course.[2] The class meets once a week for 90 minutes over both semesters. Fluency development through engagement with accessible content is the central aim of the course in the Spring semester. Students are required to do five 20-30 minute out-of-class listening practices[3] a week, as well as read eight graded readers in total (typically stories to listen to each week, although there are some shared listenings too). The main activities in class each week focus on explaining and discussing the content of the out-of-class listening and extensive reading preparation. Some class time is devoted to making notes (including vocabulary notes) and using these notes as the basis for pair explanations and discussions each week. In the Autumn semester, in contrast, the out-of-class listening requirement continues but at a less intensive rate, while the extensive reading component shifts to reading and note-taking on different global issues readers (Cengage/National Geographic Learning, 2014) that students choose from a classroom library and use in combination with a dedicated website to develop their knowledge further.[4] The aim in the Autumn semester is for students to continue to engage with accessible content through out-of-class reading and listening, but the focus on a particular content area is extended over 4- to 5-week research cycles where the students read/listen and note-take, then research, explain, discuss, and present their understanding of a particular global issue that they are interested in.

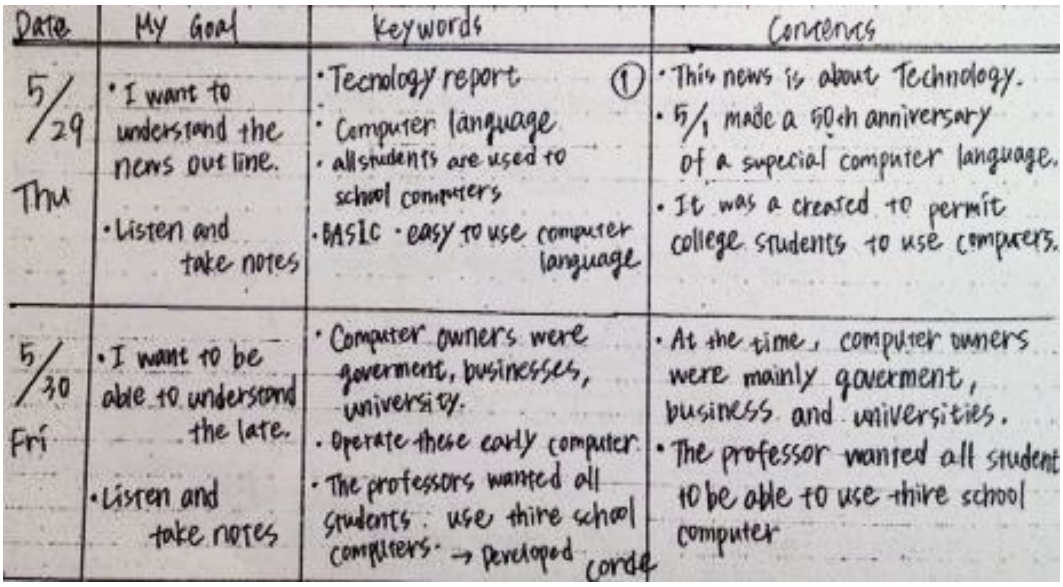
The out-of-class listening component

For the out-of-class listening component, from the first week of the Spring semester, students are asked to do short 20- to 30-minute listening practices 4-5 times a week, keeping a short Listening Diary in their notebook for each practice, using the following guideline:

Your listening goal and way of listening	**Key vocabulary (words and phrases)**	**Short summary /reflection**

Figure 1 Initial out-of-class Listening Diary guideline

The students set goals and choose what way of listening they wish to try before they listen to a news story; the key vocabulary column is for jotting down important words and phrases as they listen; and the short summary/reflection is what they write after they listen, guiding them to re-use and recycle key vocabulary from their notes.[5] Figure 2 below shows two Listening Diary entries by a student at the end of May.



Date	My Goal	Keywords	Contents
5/29 Thu	• I want to understand the news outline. • Listen and take notes	• Tecnology report ① • Computer language • all students are used to school computers • BASIC · easy to use computer language	• This news is about Technology. • 5/1 made a 50th anniversary of a supecial computer language. • It was a created to permit college students to use compuers.
5/30 Fri	• I want to be able to understand the late. • Listen and take notes	• Computer owners were goverment, businesses, university. • Operate these early computer • The professors wanted all students use thire school compiters. → developed corde	• At the time, computer owners were mainly goverment, business and universities. • The professor wanted all student to be able to use thire school computer

Figure 2 Example Listening Diary entries from late May

Students use their Listening Diaries in class for 10-15 minutes at a time to talk in rotating pairs about what they have listened to out of class, what they learned and found interesting about different news stories, as well as to focus on interesting and useful vocabulary that they have come across to develop their ways of making phrase-based vocabulary notes.

The series of activities aims to help students to build their knowledge of current affairs through *meaning-focused input activities*, as well as to attend to their vocabulary through *meaning-focused output activities* (explaining and discussing with other students) and completing *language-focused learning activities* (exploring ways of making vocabulary notes). The course structure also involves *fluency development*, so in many ways the interaction between the four strands of meaning-focused input, meaning-focused output, language-focused learning, and fluency development (Nation, 2001, 2007) allows for the integration of "intentional and incidental vocabulary learning" (Schmitt, 2008) that is currently understood to be optimal for effective L2 vocabulary development in an instructed context.

Initiating the exploration of learners' phrase-based vocabulary development

In the present study, although the students started keeping Listening Diaries from the first week of the semester, it was not until the beginning of June, approximately 6 weeks later, that I started the exploratory study with the students. I wanted to wait until they had settled into doing out-of-class listenings and were comfortable talking with each other about what they had listened to. In June I explained to the class that I would like to explore their vocabulary development with them and focus on different ways in which they could move from learning vocabulary as individual words to starting to record, learn, and use "phrases" or "combinations." Avoiding any technical words in my explanation, I kept the focus on phrases as combinations of two or more words (with some simple examples) and asked one of the more proficient students in the class to summarise in Japanese what I had explained. The students had time to check their understanding with each other in pairs, before consent forms were handed out, read, signed, and collected back in.

Next I asked the students to look back over their Listening Diaries for the previous week, and to choose individually the news story that they found the most interesting. From their Listening Diary for that news story they then selected vocabulary that they thought was interesting, important,

and/or useful for them, and made a half page of vocabulary notes by trying to "connect up" what they had chosen rather than simply listing individual words with a Japanese translation (which would have been their default lexical approach). They were free to include single words in their re-worked notes, too. These instructions were deliberately general as I wanted to see what the students would do. It was also important for the students to have a sense of ownership of what they were doing at this early stage of sharing their personal knowing (Stahl, 2004). The students took about 20 minutes to make their notes, which they then used to talk with a new partner in class. Where time allowed, they also wrote short reflections in class about their lexical phrase work. Over several weeks the students went through more or less the same sequence in class, moving towards choosing shared listenings in pairs and doing some assigned whole-class listenings out of class, as well as developing phrase-based vocabulary maps together.

Figures 3, 4 and 5 below show three example maps that one student, Yumiko (a pseudonym), made over time. The early June map (Figure 3) shows a concern with lexical phrases separated into individual lexemes (for example, **remove candy** -> **remove**/**candy**; **lose weight** -> **lose**/**weight**), and there are only two lexical phrases in the map (**UK supermarket**, **want to**).

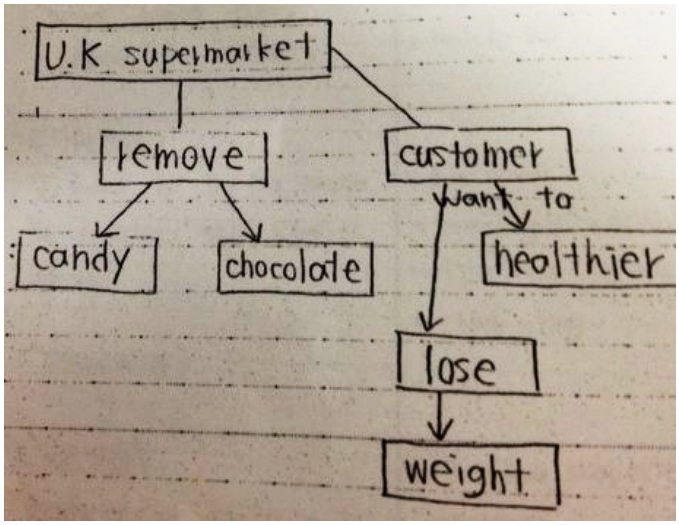


Figure 3 Example vocabulary map from Yumiko in early June 2014

Compared to the map in Figure 3, there is a noticeable increase in lexical phrases in the late July map by the same student as shown in Figure 4, which has just two cases of single lexemes (**Antarctica**, **stronger**).

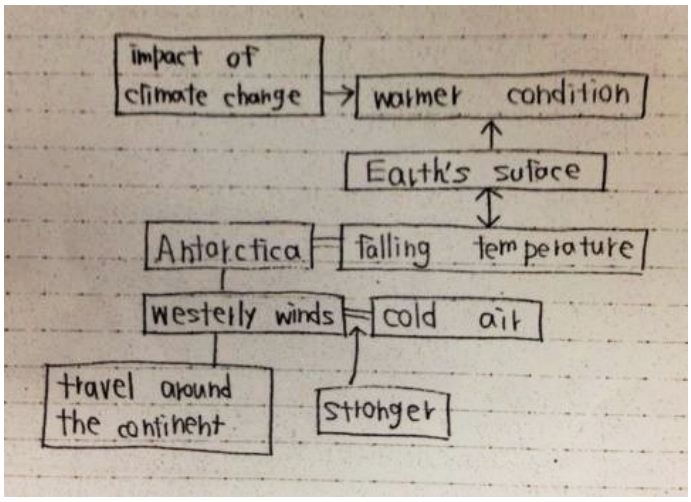


Figure 4 Example vocabulary map from Yumiko in late July 2014

The most frequent type of lexical phrases in this map involves two-word, noun-based combinations (**warmer atmosphere, Earth's surface, falling temperature, westerly winds,** and **cold air**).

There is an even more striking development when we look at a vocabulary map by the same individual from early October 2014 (Figure 5 below). Figure 5 shows that the student has now developed a clearer sense of organisation and that eight out of the 10 lexical phrases are two-word combinations. Five are noun based (**noisy neighbours, loud voice, loud music, loud TV,** and **door slamming**), but Yumiko is now also recording two-word verb-based lexical phrases too (**felt angry, felt stress, not apologize**).

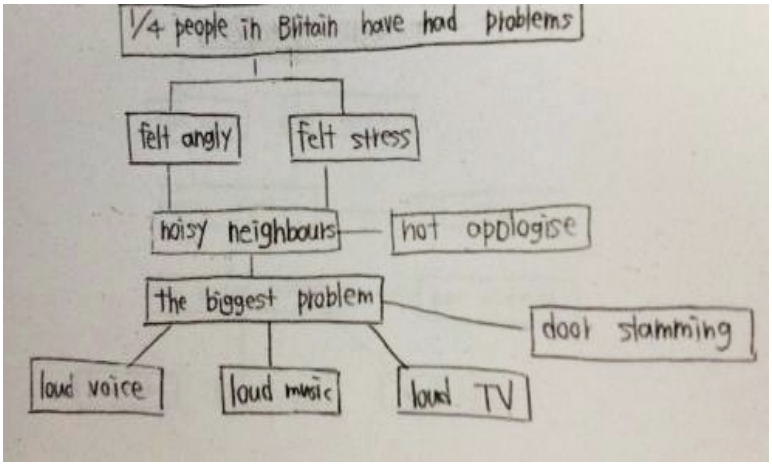


Figure 5 Example vocabulary map from Yumiko in early October 2014

To understand more closely changes across the students' vocabulary maps that the snapshots in Figures 3, 4 and 5 point to, I will present a quantitative analysis of the students' phrase-based vocabulary development in the second half of the 2014 Spring semester, and look qualitatively at some of their reflections on adopting a phrase-based approach. First, though, I would like to invite Zorana Vasiljevic, my peer reader responder, to share her thoughts and comments about this account so far. Zorana and I worked for several years in the same taught-in-English programme at

Chuo University Faculty of Law, and we had many interesting discussions about students' lexical development within this particular context.

Peer reader response from Zorana Vasiljevic, Bunkyo University

Having followed Andy's research in recent years, I accepted the invitation to comment on this paper with great pleasure and interest. I believe that the topic that Andy has selected and the approach that he has adopted are innovative in several respects. Firstly, while there is an extensive body of research on the effects that vocabulary knowledge has on L2 listening comprehension, considerably fewer studies have been done on listening as a source of vocabulary learning. In addition, published research is extremely scarce when it comes to the acquisition of multiword phrases from auditory input. One of the main obstacles to collocation learning is the insufficient attention that learners pay to lexical chunks that do not cause comprehension problems (Boers & Lindstromberg, 2009). Earlier this year, Andy and I discussed a possibility that vocabulary notes produced during the listening practice may facilitate the development of students' collocation knowledge more than reading practice. While reading allows students to focus on new words in the text, the ephemeral nature of listening makes it difficult for learners to create vocabulary logs with words they are not familiar with. This means that vocabulary notes from auditory input are more likely to include the words and phrases that are already in the learner's vocabulary. Attention to familiar words in language input should promote the uptake of language chunks leading to the consolidation of the learner's vocabulary knowledge. I am very much interested in learning whether or not Andy's data will support this hypothesis.

Secondly, while collocation knowledge development has often been discussed in the light of the needs of higher-level learners, Andy's study looks into the phrase-based lexical development of learners at lower levels of language proficiency. Knowledge of language chunks facilitates fluency in both language production and comprehension. This is a strong reason for drawing learners' attention to lexical phrases as early as possible. Data from this study should shed some light on the extent to which learners with a relatively limited vocabulary size can recognize lexical chunks in the auditory input.

Thirdly, despite the growing recognition of the importance of collocation knowledge, very little is still known about how learners approach collocation learning. Earlier research studies have primarily been concerned with the question of WHAT collocations learners can produce rather than with HOW they have achieved a particular level of collocation competence. This study combines quantitative and qualitative data analysis, which makes it possible to examine learners' vocabulary development along different dimensions such as the number of words and phrases that learners tend to record in a single listening session, their compositional characteristics (e.g., a bias towards a certain pattern of collocations) as well as the reasons that motivated their decisions to focus on particular words or phrases. This approach allows teachers to follow learners' development, not only in terms of their lexical competence but also in terms of their understanding of vocabulary learning processes.

Finally, another strength of this study lies in its commitment to fostering learner autonomy. While learner autonomy has become something of a buzzword in language education in recent years, in practice it is not uncommon to have it implemented as a little "extra" to the traditional teacher-centred coursework. Students come to classes, listen to the lectures and take exams in which they need to demonstrate that they have learned the content that was presented to them, and only a small portion of the course grade is awarded to so called "self-study" projects, where students are allowed to take more control of their learning. However, all classroom practices described in this study are grounded in the principles of learner autonomy, an approach that in itself is worthy of attention, considering that the study was done with Japanese students who, due to the nature of their educational experiences, have been conditioned to rely on the teacher at all stages of the learning process. In this study, learners

are the ones who decide on the content that they will be working with, define their learning goals, and select the vocabulary that they want to attend to. There is no doubt that learner autonomy is important for all aspects of language learning, but it is crucial for vocabulary development. The sheer number of words and phrases that learners need to master is too large to be targeted in classroom-based instruction. The approach that Andy adopted offered learners ample opportunities to share their experiences and to reflect on their vocabulary learning practices, raising students' awareness of their beliefs and learning styles, and gradually empowering them to take full control of their learning.

In short, thanks to its innovative design, I believe that this study could offer an invaluable insight into the nature of learners' phrase-based lexical development. The main challenges that come with it concern the interpretation of the results and their possible pedagogical implications. While the study is conducted in an environment created to maximize learners' autonomy and to stimulate their engagement with the learning process, it should not be forgotten that Listening Diaries were one of the course requirements, and that they were kept in response to the task that had been set by the teacher-researcher. Past learning experiences often shape learners' perceptions of classroom roles and desirable learning outcomes and sometimes inhibit learners' receptiveness to alternative learning approaches. There are many Japanese students who have grown (or been taught) to believe that expansion of vocabulary size is the main goal of vocabulary learning and that the ability to use difficult words is an indicator of both language proficiency and general sophistication of the language user. For these learners the development of phrase-based knowledge may seem less important than adding new words to the lexicon and as a result, they may be less willing to transform their learning practices. Therefore, although difficult to obtain, real evidence of learners' improvements in vocabulary learning practices would come from the learning behaviour they display after the completion of the course, both inside and outside their language classes. The second challenge of this study concerns the nature of the teacher's involvement in the learners' vocabulary development. With vocabulary being selected from the listening input, it is likely that the students' vocabulary records will contain at least some phrases from which function words (in particular prepositions and articles) will be omitted. Repetition strengthens memory, and as students are supposed to share these phrases with several of their peers, there is a risk that some students may remember incomplete lexical chunks, which they will eventually need to re-learn. Therefore, one of the challenges that I believe this study will pose for teachers will be how to best facilitate learners' uptake of multiword phrases without restricting their autonomy.

Part Two

Focusing on learners' initial lexical harvests

I would like to thank Zorana for responding in such an engaging manner to the initial framing of this study and for raising several challenging questions for me to consider in Part Two of this chapter. Zorana points out how many learners have become accustomed to paying more attention to individual words than multiword phrases, an effect familiar enough in the Japanese educational context, where formal learning of L2 vocabulary is often emphasized in isolation from self-directed use of that vocabulary for meaningful communication. In her response Zorana suggests that it will be interesting to see what kind of lexical phrases the students in this study start to notice and record, making the tentative point that, with listening input, learners may notice more what they

already know or partially know than what they don't know (in contrast to what often happens with reading-based vocabulary development). Although I was initially hoping to compare the kind of phrasal vocabulary that learners notice and retrieve from different kinds of reading and listening input, I soon realised that this kind of comparison would be beyond the scope of the present study. One factor that weighs heavily here is the time that it takes students to make vocabulary notes in class each week, together with the need for such activity to be balanced with other "strands" as outlined above.

Zorana's response also highlights the tension between guiding learners to retrieve and uptake lexical phrases and enabling students to develop their self-direction in what they do. Clearly the initial Listening Diary frame, out-of-class listening requirements, and in-class activity sequences follow a particular format, within which the students gradually exercise greater decision-making and control as the semester and year progresses. In the 2014 academic year, as I was doing this research, I focused more than usual on students' phrase-based vocabulary development and restricted student choices as a result. One of the tensions that this has led me to recognise is how the decision to do classroom-based research has an inevitable effect on learning arrangements and issues of power between the teacher and students. In the present study this tension was mitigated to some extent by my efforts to dialogue with each student over the year about how they were developing their "lexical harvests", but questions remain about navigating learner inclusion in doing "inclusive practitioner research".

In terms of results, I will begin by presenting a quantitative analysis of the students' phrase-based vocabulary development in the second half of the 2014 Spring semester. In the following analysis, I want to examine the frequency and type of lexical phrases that students recorded at different points, as well as interpret reflections from individual students about adopting a lexical phrase focus for their L2 vocabulary development. I will also come back to the question of how individuals' lexical phrase development might be usefully connected to wider issues of interaction and negotiated use.

Understanding closely learners' initial lexical harvests

In July 2014, two of the students had missed the last classes of the semester and did not turn their work in, and another student already had several absences, so they were not included in the analysis. In total, I analysed the vocabulary maps and reflections of twenty-one of the 24 students from June 4 to July 23. This 8-week period covered 7 classes as the June 11 class was cancelled.

The first step I took was to create individual data sets by entering the following lexical information for each student's vocabulary maps:

- single lexemes
- total number of single lexemes
- lexical phrases
- total number of lexical phrases.

I took the term "lexical phrases" as combinations of two or more lexemes that the students recorded together as I wanted to keep the working definition simple and open ended until I had a clearer and more precise sense of students' lexical development. In this preliminary data sorting, I noticed that one individual had recorded an unusually high number of single lexemes items—17 for June 4, and 34 for July 23. This accounted for 26% of the total number of single lexemes recorded by all the students on July 23, so I decided to exclude this outlier from the analysis. As I was dealing with frequency data, I opted for a Chi-square analysis to compare the total number of single lexemes and lexical phrases at different times. In addition I carried out an analysis of the lexical

phrases that students had noted down for listenings assigned to the whole class, using the Corpus of Contemporary American English (Brigham Young University, undated).

Single and lexical phrase comparisons across the class group

The initial focus of the group analysis focused on the vocabulary maps that the students made in class on June 4 (T1), July 2 (T2) and July 23 (T5) where there was a minimum three-week period between the different times. (It would not be reasonable to expect significant changes from one week to the next, but over a three-week period changes may be expected to occur.)

Table 1 below reveals a significant increase in the recording of lexical phrases for the group as a whole, as well as a significant decrease in the recording of single lexemes in the students' vocabulary maps from June 4 to July 23.

Table 1 Single lexemes and lexical phrases comparison June 4—July 23 (N=20)

Time	Single lexemes	Lexical phrases	Totals
June 4	146 (112.42) [10.03]	58 (91.58) [12.31]	204
July 23	86 (119.58) [9.43]	131 (97.42) [11.58]	217
Totals	232	189	421
Chi-square statistic 43.3529		$p < 0.01$	

Both the increase in lexical phrases and the decrease in single lexemes are significant in the first three weeks of the exploration, as shown in Table 2 below.

Table 2 Single lexemes and lexical phrases comparison June 4—July 2 (N=20)

Time	Single lexemes	Lexical phrases	Totals
June 4	146 (120.26) [5.51]	58 (83.74) [7.91]	204
July 2	45 (70.74) [9.37]	75 (49.26) [13.45]	120
Totals	191	133	324
Chi-square statistic 36.2394		$p < 0.01$	

However, in the second half of the exploratory period (from July 2 to July 23) no significant change could be found (see Table 3 below).

Table 3 Single lexemes and lexical phrases comparison July 2—July 23 (N=20)

Time	Single lexemes	Lexical phrases	Totals
July 2	45 (46.65) [0.06]	75 (73.35) [0.04]	120
July 23	86 (84.35) [0.03]	131 (132.65) [0.02]	217
Totals	131	206	337
Chi-square statistic 0.1477		***p* value** 0.700725	

These results provide an initial trace as the students move away from an exclusive concern with recording single lexemes alone towards developing a focus on lexical phrases. In addition, Table 4 below shows how the range of single lexemes in the students' vocabulary maps dropped by July 23, even though the difference between July 2 and July 23 is not statistically significant.

Table 4 Summary statistics: Single lexemes (N=20)

Time	Total	Range	Mean
June 4	146	0-16	7.3
July 2	45	0-6	2.25
July 23	86	0-10	4.3

A quantitative analysis furthermore shows that the students' capacity for noticing and recording lexical phrases more than doubled on average between June 4 and July 23, as shown in Table 5 below.

Table 5 Summary statistics: Lexical phrases (N=20)

Time	Total	Range	Mean
June 4	58	0-11	2.9
July 2	75	0-10	3.75
July 23	131	0-11	6.55

Overall, these results provide some interesting evidence that the students were developing their capacity to move towards a greater focus on lexical phrases, at the same time as moving away from an exclusive concern with recording single lexemes alone. They also show how the students' lexical

phrase capacity continued to grow in the second half of the exploratory period and had more than doubled on average from June 4 to July 23 even if this change did not prove to be significant from July 2 to July 23.

Lexical phrase naturalness across the class group

To encourage further awareness raising and negotiation of their lexical choices, I decided to start asking the students to do individual, pair and whole-class listenings instead of only choosing individually what listening texts to use each week for their out-of-class listening practices. This change would enable the students to talk together more about the vocabulary maps they made in class, as well as start to negotiate with each other what they considered to be appropriate lexical phrases for use.

Using the Corpus of Contemporary American English (Brigham Young University, undated) to judge the naturalness of the lexical phrases that the students recorded, I carried out an analysis of the lexical phrases that students had noted down for listenings assigned to the whole class on July 2, 9, 16 and 23[5] by. First, all the lexical phrases that the students had produced in their T2-T5 vocabulary maps were collated, and then separated for each time into those lexical phrases that had been recorded by just one student (see the column for "single lexical phrases") and those had been noted by more than one student (see the column for "shared lexical phrases"), as shown in Table 6 below.

Table 6 Shared lexical phrases for T2-T5

Time	Total lexical phrases (100%)	Single lexical phrases (--%)	Shared lexical phrases (--%)
July 2 (T2)	75	39 (52%)	36 (48%)
July 9 (T3)	107	72 (67%)	35 (33%)
July 16 (T4)	101	61 (60%)	40 (40%)
July 23 (T5)	131	40 (31%)	91 (69%)

The results indicate a clear increase in shared lexical phrases across the class from July 2 to July 23, with a major increase between T4 and T5. By T5, the students were producing clearly more shared lexical phrases than single lexical phrases, marking a critical switch in the classroom community's phrase-based lexical development.

But what kind of lexical phrases were the students recording? Were they for the most part harvesting conventional lexical phrases or were they producing non-standard combinations—what we might call "creative combinations"? Distinguishing between conventionalised and creative combinations would offer a way to explore the question of "language creativity" (Henriksen, 2013) in the lexical phrases that students recorded and to gain some sense of how far the students were starting to identify appropriate multiword mappings (Wray, 2012). The results from this part of the analysis also help to address Zorana's concern about the types of multiword units that students recorded.

Following Church and Hanks (1990, p.25), I opted to use a Mutual Information (MI) score of 3.0 as the cut-off point for judging whether a particular phrase was creative or conventionalised. For example, **cold** and **air** have an MI of 3.71, and **Earth's** and **surface** have an MI of 7.43. Thus, **cold air**

and **Earth's surface** can be said to be conventionalised. In contrast, **cold** and **continent** do not co-occur, so **cold continent** is classified as a "creative combination", i.e., an original, non-conventional lexical phrase. Other examples of creative combinations in the students' notes included **climate exchange** and **keep rain**. The results in Table 7 indicate a major growth at T5 in the group's capacity for conventionalised lexical phrases, with twice the number produced at T5 than in each of the three previous weeks.

Table 7 Conventionalisation of shared lexical phrases T2-T5

Time	Shared lexical phrases (100%)	Conventionalised (--%)	Creative (--%)
July 2 (T2)	36	27 (75%)	9 (25%)
July 9 (T3)	35	31 (89%)	4 (11%)
July 16 (T4)	40	34 (85%)	6 (15%)
July 23 (T5)	91	77 (85%)	14 (15%)

Finally, I looked more closely at the conventionalised lexical phrases for T5 (see Table 9 on the next page). Table 9 shows that the vast majority of the students' conventionalised lexical phrases are noun collocations (**noun + noun**, **adjective + noun**), with just two cases of the same 'bare' **verb + noun** collocation (**change direction**). The students record verb + noun collocations within longer clause-based phrases that they have retrieved (e.g., **it causes global warming**, **it raise the sea level**), which may underline the difficulty that they initially experience in analysing such forms independently of the context in which they occur.

Table 8 below displays the shared "creative combinations" that the students recorded at T5. These consist of lexical phrases for which no MI score could be found in the COCA analysis. Interestingly four of the six cases are verb-based lexical phrases.

Table 8 Shared creative lexical phrases at T5

COCA MI	Lexical phrase	Frequency	Used also in	Frequency
*	warmer condition	2	warner conditions (1)	1
N/A	travel around the continent	1	travel around the continent and return (1)	1
N/A	cold continent**	2		
N/A	force cold into southern hemisphere	2	forced cold into southern hemisphere (1)	1
N/A	keep rain	2		
N/A	keep hot air***	2		
Total		**11**		**3**

* **warmer** and **conditions** have an Mutual Information Score (MI) of 3.85.
** **coldest** and **continent** have an MI of 6.85

Table 9 Shared conventionalised lexical phrases at T5

COCA MI	Lexical phrase (21 types)	Frequency	Used also in	Frequency
7.13	climate change	8	impact of climate change (1), climate change exist (1), climate change paradox (1)	3
8.49 12.05	greenhouse gas (5) greenhouse gases (7)	5 + 7	greenhouse gases trap energy (1), reduce greenhouse gas (1)	2
10.35	westerly wind (2), the westerly wind (1), westerly winds (3)	6	westly wind (1),	1
9.30	global warming (3), grobal warming (1), global warning (1)	5	effect on global warming (1), it causes global warming (1)	2
7.43	Earth's surface	4	Earth's surface rising (1)	1
3.71	cold air	3	forced cold air into the hemisphere (1)	1
5.34	ice sheet	2		
4.57	Antarctica's surface (1), Antarctic's surface (1)	2		
3.15	change direction	2		
4.22	influence on (greenhouse), (most) influence on (weather)	2		
7.52	melting ice	1	not melting ice (1)	1
3.17	raising sea level	1	it raise the sea level (1)	1
6.58	rising sea level	1	not rising sea level (1)	1
3.30	southern ocean	2	southern ocean wind (1)	1
3.37	temperatures are falling (1), temperature is falling (1)	2		
3.79	warm air	1	stop warm air (1)	
	temperature on Earth's surface is rising	1	tempreture of earth's surface (1), temperatures on Earth's surface (1)	2
4.14	warmer atmosphere	2		
4.22	effect on	1	effect on global warming (1)	1
3.08	reduce gas	1	reduce CO_2 (1) *	1
Total		**59**		**18**

* **reduce** and **CO_2** have a MI score of 5.71.

Bringing things together from the quantitative analysis

It is noticeable how few lexical phrases the students noticed and recorded at first, and how this increased within a short period of time, as students learnt to start "connecting up" and retrieve interesting, important, and useful phrases and combinations of words. The students significantly developed the numbers of lexical phrases that they recorded during the 8-week period of the exploration. Yet, in the second half of that period, the lack of a significant increase from July 2 to July 23 was puzzling. Something else was happening, and a closer look at the quality of the lexical phrases that the students recorded during this period revealed a growing degree of control on their part in noticing and retrieving conventionalised and shared lexical phrases. This led to the critical switch at July 23 where the students started recording more shared lexical phrases than single lexical phrases—the point (if there is ever a single point for 20 learners) where a majority of the class perhaps now started feeling empowered to "harvest in larger chunks".

One issue that is important to come back to is the exclusion of the outlier, Sonoko (a pseudonym). Justifiable as this decision is from an analytical perspective, the outlier was, from a learner development viewpoint, simply a learner in the class who had at the time markedly different practices from the rest of the group. Sonoko's preference for recording great numbers of single words in her vocabulary maps made me notice more closely what she had been doing, and I started talking with her about this at the start of the Autumn semester. When Sonoko also noticed her marked focus on single words, she was at first surprised but then had little difficulty in switching towards a much more phrasal approach. She quickly became aware of how this could help her to speak more fluently and express her ideas better: "*I try to write phrases, I think it made me easy to speak my opinion*" (Sonoko, October 1 reflection) and "*Writing phrases make easier to talk. Because I think to make connection between the first box of words and the next one. So I can speak step by step in no time*" (Sonoko, October 8 reflection). In many ways, Sonoko helped me understand that I needed to be careful not to lose myself in the numbers and to get back to talking with the students individually about their ongoing lexical phrase development.

Responding to learner reflections on their lexical phrase development

In looking at some of the learners' reflections on their lexical phrase development, I will focus on different insights that they shared in October, at the start of the second semester. By this point, all students in the class were producing vocabulary maps that were predominantly phrase based. This was also at the point where they were about to start to learn about a global issue in depth and carry out a research project using both listening and reading resources. So, over the first few weeks of the semester, I took time to talk with each student about their development, collected in the vocabulary maps and short reflections that they made in class, and wrote back to each student each week about their lexical development. As I did this, I noticed different themes that the students' reflections tended to focus on, including:

- a focus on quantity of lexical knowledge
- a concern with connecting single words and noticing lexical phrases
- a growing sense of being able to use lexical phrases and express oneself
- finding interest, enjoyment and satisfaction in taking part in discussion of current news issues.

Below I have excerpted comments around these themes from different individuals' reflections. To round off this part of the chapter, I will briefly interpret each theme.

Quantity of lexical knowledge

One preoccupation that students voice at the start of the first year is to do with learning quantities of words, and this remains a default position for some students as they develop their lexical phrase capacity:

- (October 1*) I notice that the number of vocabulary is lack. I thought I must increase my vocabulary. I want to try to read as many English sentence and acquire my vocabulary.*
- (October 8) *I think I should read and listen to English many times by news. I try to note down not single word but phrases.*
- (October 8) *I noticed that I became to understand how to write vocabulary map. I try to write down many phrases in my vocabulary map and learn those phrases.*

The few students who persisted in taking a position around the quantity of their lexical knowledge seemed to break through into lexical phrase development at a later time than other students.

Connections

Although the majority of students in the class could soon see the benefit of shifting their focus to lexical phrases, it was not necessarily an easy goal for them to reach. However, making vocabulary phrase maps had the benefit of being both interesting and useful for them:

- (October 1) *It's difficult to pick up phrases. Writing one word is easy but connecting words is difficult, however making vocabulary maps is interesting.*
- (October 8) *When I'm high school students, I learn vocabulary with Japanese words. It is not connection with other English words. But now I can connect with many words.*
- (October 8) *Today I make map with listening partner. She have different idea, so I'm interested in making map. I tried to pick up more useful phrases than words.*

As the third comment here suggests, students also learnt to appreciate similarities and differences in the way they organise their lexical phrases, and this has a positive, motivating effect on the further social mediation of their lexical phrase development.

Use, explanation, and self-expression

Vocabulary maps become seen as a tool for explaining understanding of different news stories in more detailed and fluent ways:

- (October 1) *It is difficult to relate between word and word so I have better use more phrases. When I was talking with new partner, I could use this map well. It is useful to explain the story. It is important to start roughly to details in presentation.*
- (October 8) *Today I try to make map with many words to spread map on individual map. I notice on map listening partner, decrease word because we use many phrases.*

Students also seem to become aware of their lexical phrase development as an incremental process they are increasingly in control of.

Interest, enjoyment, satisfaction

Finally, many students reported in their reflections on questions of affect to do with developing their lexical phrase competence:

- (October 1) *I improved vocabulary map skills better than before. Today's class very interesting and necessary for me. I don't forget today's class. I think I'm going to study more than before.*
- (October 8) *Today I can discuss more than last week. Today was very enjoy and good discussion.*
- (October 8) *Vocabulary map is useful for me to tell my partner and I notice the vocabulary map's validity. I try to make my vocabralys map enrich their contents.*

Having looked at students' lexical phrase in both quantitative and qualitative terms, I would like to invite Mary Jo Pichette, my interdisciplinary reader responder, to share her comments on the exploratory study so far. Like Zorana, Mary Jo taught for several years in the same taught-in-English programme at Chuo University Faculty of Law, and so she is familiar with many of the issues around students' lexical development as they do self-directed research projects. At the time of writing her response in 2014, Mary Jo had been teaching at a high school for Japanese students in Switzerland for the previous four years, where students do research projects through English, as well as prepare for Japanese university entrance exams and for university in other countries. I'm intrigued as to what issues and questions stand out for Mary Jo in learners' lexical phrase development as she looks at this exploration from the different educational perspective of a Japanese high school.

Peer reader response from Mary Jo Pichette, Kumon Leysin Academy of Switzerland[1]

I first became interested in fostering both student autonomy and language acquisition through the medium of global issues while working with Andy and other full-time and part-time teachers at the Chuo University Faculty of Law taught in English program. In my Research and Discussion class students chose to research and present on social, political, legal, economic, and global issues of their choice, making notes on what they learned and then using their notes to discuss their research with a partner. It was the first time I had asked students to choose their own learning resources and create their own, personalised collections of useful vocabulary, and at the time, I noticed that the students were not only very engaged with the topics but also seemed to be acquiring more language than I had expected. That experience at Chuo was a turning point for me and continues to inform my teaching today. I am therefore very pleased that Andy has asked me to be his interdisciplinary reader responder for this paper.

At the high school in Switzerland I am currently teaching an elective Global Issues class of 15 mixed level (low-intermediate to intermediate) 12th grade Japanese high school students. In class we focus on various global issues, such as education in the developing world, poverty, children's rights, conflict, and the environment. We do several shared readings and watch short documentaries, and the students take notes on what they have read and listened to and use their notes to discuss the issue with their partners. We spend about six weeks on each theme, so after working with the shared material, the students have several weeks in which to choose a research topic and then research and share what they've learned with their classmates. The class is billed as primarily a content course, but because I'm working with second language learners, I am always interested in using that content to help the

students build their language skills and proficiency. It is for this reason that Andy's research is particularly interesting to me.

It is useful to see the progress of Andy's students over the eight-week period and to read comments from their reflections written in October. It is clear that they are not only noticing their own progress moving from noting down single words to identifying useful phrases, but that through discussions of the shared listenings, they are also learning from their partners, and making their own decisions about what kinds of phrases are important to help them re-tell the news stories to each other. While this kind of collaborative, and mutually supportive learning is important for any students learning a second language, I think is it especially important for Japanese language learners, who, as Zorana has mentioned, tend to trust and rely on what the teacher has taught them, often discounting as less important what they may have learned on their own. Working collaboratively, and seeing that their partners have noted down many of the same lexical phrases must give the students self-confidence in their own ability to recognise and use vocabulary harvested from the listening texts.

While I was reading, several questions came to me. Right now, my students regularly engage in meaning-focused input activities (shared and individual readings, listenings, and viewings) and meaning-focused output activities and fluency development (discussions of what they read, heard, or saw with a partner or group), but are not really engaged in specific language-focused learning activities. In other words, most class activities focus on only three of these four strands needed for language learning (Nation, 2001, 2007). My current approach allows for incidental, but not intentional vocabulary learning, and is perhaps therefore not as effective as it could be (Schmitt, 2008). I would very much like to try asking my students to develop vocabulary maps from the notes they make to discuss both the shared material and the material they use while doing their independent research. Since they are all very keen to develop their English vocabulary, I believe they will be open to this additional task, but I am wondering what the best way to introduce this new focus into an already busy schedule would be. I see that the students involved in this study began writing down key vocabulary by keeping Listening Diaries, and that they spent about 10-15 minutes per class discussing the news stories and then another 10-15 minutes creating vocabulary maps, but I am curious as to how the mapping was introduced. Besides the simple verbal explanation of phrases and combinations, did the students see model vocabulary maps showing a progression from single words to phrases? I find there is a fine line between allowing students the autonomy to discover things on their own and guiding them to go about any given activity in an efficient and productive way. In many of their courses, my students are taught there is a right way and a wrong way to go about any particular task, and I feel it is quite comfortable for them to follow explicit directions. I would like them to take ownership of this vocabulary building activity. Over time, how much did you notice students finding their own ways of creating and using the vocabulary maps? Do they seem to find them as useful when discussing their self-directed research? In addition, I am also curious to know whether they have started to use vocabulary mapping as a tool to help them understand and acquire vocabulary in any of their other courses.

Regarding the data gathered from the four-week period of shared listenings, I was also very interested to see the big shift in shared lexical phrases for the July 23rd Voice of America report on Antarctic cooling. I am assuming that the students are somewhat familiar with vocabulary relating to climate change, and that, as Zorana has pointed out, familiarity with the vocabulary should help them notice language chunks. As work with this group of students has progressed over the past few months, have you noticed how much familiarity with the content affects their lexical harvests? Has their recording of shared conventionalised lexical phrases continued to grow steadily, or have you noticed a drop in the number of shared phrases recorded when the students are confronted with an unfamiliar topic? I am curious because I rarely make a point of explicitly introducing vocabulary to my global issues students

before a shared reading or listening, and while this usually feels like the right thing to do, I sometimes think I may be doing them a disservice when the topic is unfamiliar.

Finally, in their reflections, the students have noted their enjoyment of listening to and discussing various news stories, and they are clearly aware that this process is helping them to acquire language. Could you also comment on how much discussions using the vocabulary maps might have helped the students gain a fuller understanding of, and confidence in discussing the issues they have been researching? When I introduce this new approach to the class, I want them to see how developing individual vocabulary maps, and using those maps during discussions can ultimately help them better understand the issues they have chosen to research.

Part Three

Towards a more complex perspective

I would like to thank Mary Jo for her interdisciplinary reader response and for raising important questions not just about pedagogic issues, but also about the role of vocabulary maps in relation to the development of students' knowledge and understanding of the issues that they were researching. Mary Jo's response also picks up on the longitudinal dimension of this exploratory study and brings the focus fully back to issues of learner development.

In response to her question about the introduction of vocabulary maps and the issue of restricting students to one model or not, it is helpful to emphasize that vocabulary maps are one way for students to develop their lexical phrase capacity, but not the only one. There are many different possibilities for learners to record multiword expressions, and vocabulary maps offer one choice. Yumiko's exemplar vocabulary maps in Figures 3, 4 and 5 (see also Figure 6 further below) are organised with a particular clarity that helps to illustrate "connecting up" lexical phrase notes. It is however important for students to see different ways of doing this and to experiment so that they can each find what works best for them individually. It is therefore useful to show students various examples of recording lexical phrases once they have become familiar with shifting their focus from single lexemes to multiword units. Over time students will develop their own idiosyncratic approach.

Mary Jo also asks about the impact of topic familiarity on the students' lexical harvests. This is an intriguing question which touches on students' development of knowledge and understanding, as well as their interest, the explanations they give to other students, the discussions that they have of a particular topic or issue, and what they are able to notice and retrieve in the "patterning" of lexis that they wish to focus on. In the 2014 Spring semester the students were dealing with different news stories each week, and it wasn't until the Autumn semester that they started researching a particular issue over several weeks and building their content familiarity over time. This is one reason why I have found it helpful since then to ask students from earlier on in the Spring Semester to have "listening partners" with whom they can initially negotiate some of the news stories that

they listen to. It is also helpful to ask students later in the semester to choose a particular issue in the news to listen to different stories on that same issue, as well as read about it, to complete a mini-research project in the first semester. This helps to create a more appropriate bridge to the longer research cycles that the students undertake in the autumn and lets them become more familiar and fluent with different issues (rather than one-off news stories) that they have an interest in.

The other point that I would like to take up from the different questions that Mary Jo raises is whether vocabulary maps (or whatever form the lexical phrase notes take) help the students with explaining and discussing the issues that they are learning about. From talking with students about this, most report that they find lexical phrase notes a very useful support for that purpose. One reason for this may be that over time the reorganizing of key phrases becomes the same as organizing key points in their research, which in turn enables them to structure the flow of their understanding clearly to themselves and to others. Figure 6 below is a powerful illustration of this. The map was made later in 2014 by Yumiko whose work earlier in the year is shown In Figures 3, 4 and 5.

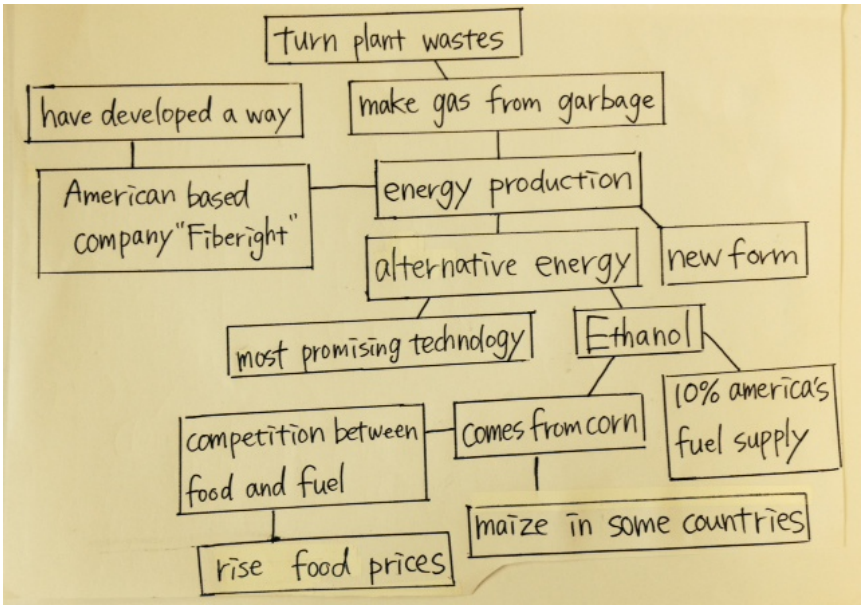


Figure 6 Example vocabulary map from Yumiko in late November 2014

Figure 6 shows the increasing complexity of Yumiko's lexical phrase development. Not only are there two-word noun phrases (**energy production**, **alternative energy**, **new form**), but Yumiko has also started to retrieve noun-based lexical phrases with nominal pre-modification (**American-based company "Fiberight"**, **most promising technology**, **10% America's food supply**) and post-modification (**competition between food and fuel, maize in some countries, rise [in?] food prices**). Another part of her lexical phrase development at this stage is how **energy** and **food** are reproduced in different lexical phrases (**energy production**, **alternative energy**, **10% America's food supply**, **competition between food and fuel**, **rise [in?] food prices),** which points to Yumiko's growing capacity to elaborate key concepts with different lexical phrases.[7]

Final thoughts

This inquiry started by asking whether it is just a question of vocabulary when students voice their concerns with developing their knowledge and use of English vocabulary. Questions were raised about how students may, in particular classroom communities of use, gear their lexical choices to peer understanding, as well as to achieving solidarity with others here and now for mutually beneficial goals and development. Specifically in this investigation I wanted to explore how lower proficiency students might become empowered to harvest in larger chunks—to gain insights into not only how the shift in lexical development from single lexemes to lexical phrases might be established, but also why. The research presented and discussed in this chapter suggests that starting to harvest in larger chunks is very much a question of learners developing knowledge and understanding, and changing identities from memorizers and rote learners of English to users and researchers, as well as co-authors of their learner development, as they engage in a range of socially mediated practices about different issues that they learn about and research. The study has also pointed to how lower proficiency students can develop their lexical phrase capacity in self-directed ways, demonstrating that they are fully capable over time of developing their capacity to make appropriate choices, negotiate these with their peers, and of moving towards greater conventionalisation of their phraseological competence. In so much as this holds, we may need in the future to take greater account of how learners' L2 lexical phrase development is socially mediated and distributed, and why it functions as a shared process of learner communities of use, rather than simply as a property of individual learner development. And this in turn invites us to ask what such a perspective might entail both for developing our pedagogic practices and for conducting further exploratory research inquiries into learners' L2 lexical phrase development.

Acknowledgements

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Endnotes

1. This was Mary Jo's affiliation at the time of writing her interdisciplinary response in late 2014.
2. I came to writing this chapter much later than I had expected, which is why this chapter has more recent time references than other papers in this volume.
3. See PELP Resources https://sites.google.com/site/pelpresources/home. The website includes guidance about different ways of listening and a small set of links to appropriate listening websites, with a particular emphasis on listening to news, including, for example, the Voice of America Learning English website (http://learningenglish.voanews.com/), which provides a wide range of simplified news stories.

4. See Global Issues Resources https://sites.google.com/site/resourcesforglobalresources. There are links in English and Japanese for over 30 global issues for students to use for doing self-directed research.
5. These different ways consist of shadowing, self-talk, listen and take notes, repeated listening, listening with and without subtitles, narrow listening, reading and listening, and, colour listening (or incremental dictation). For more details, see https://sites.google.com/site/pelpresources/waysoflistening/listeningdifferentways
6. See *Voice of America* (May 15 2014a, May 15 2014b, June 24 2014, July 6 2014). Each whole class listening was one of the five weekly listenings that the students did outside class. The texts are relatively short, which allows for repeated listening and exposure in a typical 20-minute listening practice outside of class.
7. A further discussion of Yumiko's development over the academic year can be found in Barfield (2015).

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