

Lexical Development and Learners' Practices in a Content-based Learning Course

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Abstract

Developing a better understanding of the beliefs and practices that students hold concerning their English vocabulary development should assist lexical instruction and learning. To explore different connections between lexical development and learner autonomy, changes and developments over time in the vocabulary practices and goals of several students engaged in content-based learning projects through English were tracked. After reconstructing their vocabulary histories, participants kept dedicated vocabulary notes and reflections. This study examines the developments that one individual goes through over time in his vocabulary practices and goals, in order to better understand processes of lexical restructuring and network building. From this analysis, connections to a Vygotskian view of conceptual development are drawn, particularly with regard to what such a model may indicate about learners' situated lexical development.

Keywords: learner autonomy; lexical development; vocabulary histories; vocabulary practices; content-based learning; conceptual development; lexical restructuring.

1 Background

Understanding the beliefs and practices that students bring to bear on their English vocabulary development in content-based courses has long been a pedagogic interest of mine. In these courses, where students do self-directed research projects through English on social, political, legal, and global issues that they choose to explore, appropriate vocabulary development figures as a major challenge. How do learners develop their vocabulary development preferences and practices? What effect does a test-oriented transmission mode of education have on learners' vocabulary goals? When lexical development is situated within particular educational practices and individual histories, the assumption that individuals should find the single best way that works for them and then apply that one way to achieve uniform success from that point onwards becomes questionable. It may rather be that learners change, re-configure, and reconstruct their ways of learning and using vocabulary as they reflect on their vocabulary histories, develop a greater engagement with content, see more clearly their own purposes for using English, and become more critically aware of the constrained choices that they have available for them. This adjustment in focus takes us towards exploring connections between lexical development and learner autonomy in ways that bring the learner's side of the story more fully into view. It also makes it necessary to give greater heed to how learners themselves see and organize their histories, changing practices, and goals within the shifting contexts in which they learn and use English. This study considers some partial answers to the kind of questions raised above by looking at

how learners interpret for themselves their vocabulary learning histories, as well as developments in their vocabulary practices and goals. This article also addresses how this kind of research may help us understand processes of lexical restructuring and network building.

At the outset, a brief review of learner autonomy is warranted, starting with an important distinction that has been made between two modes of learning within formal education. These modes are known as 'school knowledge' and 'action knowledge.' School knowledge is associated with the knowledge of others (e.g. teachers, texts that learners read, books that learners study) and action knowledge with the constructivist capacity of the learner to re-interpret others' knowledge, re-shape it to their own purposes, and make it part of their understanding of the world where "the pupil's ability to re-interpret knowledge for himself is crucial to learning" (Barnes, 1976/1992, p. 142). David Little has theorized from Barnes's work to propose three general pedagogic principles for the development of learner autonomy: *learner involvement*, *learner reflection*, and *appropriate target use*. By *learner involvement* Little means that learners "are brought to engage with their learning and take responsibility for key decisions." The principle of *learner reflection* requires that "learners are taught to think critically about the process and content of their learning" (Little, 2007, p. 7). Finally, the principle of *appropriate target language use* entails learners "using the target language as the principal medium of language learning" (Little, 2006, p. 2). That is, learners should use the target language not only for their own communicative purposes, but also for the metacognitive functions of reflecting on and evaluating their performance and development in the target language. Interesting accounts of the changes from school knowledge to action knowledge that classrooms geared towards autonomous learning can lead to are available in Dam (1995) and Little (2009).

While Dam and Little's approaches offer useful insights into connections between learner autonomy and lexical development, there are however some noticeable gaps in the lessons that we can draw, particularly with regard to what learners do after recording vocabulary that they choose as important, and why learners tend to list vocabulary in L2-L1 columns as they gain in language proficiency. A major question here concerns how intermediate level and above learners may be guided to keep developing their lexical practices in ways that work best for their own purposes. Such learners have necessarily had to reconcile their own purposes with the institutionalized learning that the education system has required of them. The pressure to cram vocabulary for university entrance exams in Japan is one example of how an overbearing emphasis on school knowledge forces learners into specific vocabulary practices that distance them from using the language meaningfully for their own purposes. How does this impact their later vocabulary practices and goals when they continue learning English beyond high school? What do different individuals do to re-configure their vocabulary practices towards their own communicative purposes when they have choice over content in self-directed research projects?

2 Method

To explore different connections between lexical development and learner autonomy, changes over time in the vocabulary practices and goals of several students engaged in content-based learning projects through English were tracked.

The students ranged from high intermediate to advanced in their English proficiency. The class met once a week and had a general focus on international issues, with the students doing four research projects over periods of 5–6 weeks during the second year. Some projects were pair-based, others individual, and while students made research notes and research diaries outside class each week, much of their in-class activity focused on explaining their research to each other and considering what problems they faced in different research and explanation processes. They also focused on how their knowledge of an issue was growing, and what they wanted to find out next. These reflections fed into their goal setting for their ongoing research and vocabulary development so that the vocabulary notes that they made became closely linked to the self-directed projects that they did. At the end of each cycle, the students gave 20–30 minute presentations to each other in small groups, and reviewed their performance over the whole cycle before they set new goals for the next project.

As part of gaining greater control over their vocabulary practices, early on in the academic year, the classmates had a guided discussion of their vocabulary beliefs and experiences. Here they also read other students' vocabulary histories (Barfield, 2012) before writing their own. A vocabulary history (VH) is similar to a language learning history (Benson & Nunan, 2005; Murphey, 1997; Pavlenko, 2001) in which a learner narrates their personal story from when they began to learn English through to the present before articulating their future learning plans and goals. In a VH, however, the learner gives much greater consideration to how they have tried to learn vocabulary, by detailing for example their positive and negative experiences.

3 Results and Discussion

This study focuses on one student, Ichiro (pseudonym), a second-year International Business and Law major taking an elective English course over his first two years of university. Below I have reconstructed Ichiro's VH from different reflections and self-assessments that he wrote:

Ichiro never really enjoyed learning English in high school. He studied English only for university entrance exams just because he had to. "I hardly had any opportunities to use English," he comments, and, although he felt he wasn't good at English, he liked watching movies without Japanese subtitles.

In his first year at university Ichiro felt ashamed about speaking English with his classmates, even though he had chosen to take the elective English course. He knew the key to making progress was not to be ashamed, but felt negative about using and learning English. Often he felt like giving up. At the start of the second year, he couldn't imagine himself using English in the future, and his initial goal was "to come to feel I like English". If he could remove his sense of shame and start feeling positive about learning English, he believed he would be interested in learning English and then he would be able to imagine himself using English in the future and find new goals for himself.

Through junior and senior high school I hadn't learned English actively... I learned English vocabulary only from sentences which I read in English classes. When I found vocabularies whose meaning I don't know, I looked up words in an English-Japanese dictionary. But I did only it. I didn't write down the words, neither look the sentences

over again. So when I was a junior high and senior high school student, I forgot English vocabulary soon. And I have looked up some words in a dictionary again and again. Of course, it was an inefficient way [sic].

Ichiro's VH is situated within particular educational practices that have had a highly negative effect on his ability to use the language for his own purposes and to engage with others through English. His previous vocabulary experiences were 'other-determined' (Benson, 2011, pp. 84–87, 113–114) and focused on expanding the *quantity* of his lexical knowledge, rather than on his determining for himself how to develop the *quality* of his lexical competence. The criteria that he previously used to choose vocabulary were those of difficulty and newness, not whether the items were useful, important, exciting, or interesting for his own purposes. The criteria of 'new' and 'difficult' did not work well for him.

Once at university, Ichiro's criteria for vocabulary selection gradually started to shift more towards using vocabulary for his own purposes. This process of change was protracted, and it began with a change in his dictionary use:

Getting into the university, my way learning English vocabulary changes. First, I try not to use an English-Japanese (E-J) dictionary as possible. Instead, I try to use an English-English (E-E) dictionary when I find English words which I don't know. Using an E-E dictionary, I can learn not only the meaning of the words, but also which context I should use the words in. It takes me more time than using an E-J dictionary, but it gives me more things I can learn.

For Ichiro, the shift in practice towards use goes together with the notion of learning vocabulary actively and developing his way of making vocabulary notes so that he could consolidate his lexical knowledge. He became aware that he could find different ways to help remember the vocabulary that he noted down. He also began to believe that using English actively would help him learn vocabulary. However, while he was aware of the potential benefits of such changes, these changes still appeared somewhat focused towards a school knowledge perspective of vocabulary learning—that is, a greater need for memorization than use:

Next, I try to use English vocabulary I learned actively. When high school, I only read English sentences, not used English in writing and speaking. But I realized that it's more useful to use English actively in learning English vocabulary. I don't make notes of English vocabulary. But I think I should write English words which I don't know, and should look it over again. I have a poor memory, so I have to devise one way and another to learn English vocabulary, and I will try hard.

Ichiro was motivated to develop his vocabulary practices, but it took him several months longer, as we will see below, to adapt his vocabulary practices around different issues that he researched within a particular classroom community of content-based learning.

In early June 2011, as Ichiro started to research Amnesty International and the abolition of the death penalty, his way of recording vocabulary (as shown in Figure 1) tended towards the inclusion of a great quantity of different lexical items in both Japanese and English. While his notes also showed a concern with recording items with related meanings, a listing or chaining effect can be discerned in the way

Vocabularies about "law"

- defendant 被告 (-> 被告弁護人 defence attorney)
 - the person in a trial who is accused of a committing a crime
- trial 裁判、公判
 - bring him to trial = bring him up for trial = put him on trial
 - (裁判 : judgement, justice, case, suit, lawsuit)
 - 民事訴訟 -> civil suit
 - 刑事訴訟 -> criminal suit
- 「裁判～」
 - 1) ～官 : judge, judiciary
 - 2) ～沙汰 : lawsuit
 - 3) ～手続き : legal procedure

Figure 1. An example from Ichiro's way of recording vocabulary in early June 2011.

that associated lexical items are included; thus, it seems as if Ichiro was collecting rather than organizing vocabulary at this point.

Later in June 2011, his way of recording vocabulary, as shown in Figure 2, became more organized and focused on paraphrase and collocation, but Ichiro still seemed concerned with recording a large quantity of lexical items.

- petition: a document by many people who want something
 - a petition ask / call / for something
 - demand / request / urge something
- victim
 - murder / rape etc victim
 - accident / earthquake / famine, etc victim
 - AIDS / cancer / stroke, etc

Figure 2. An example from Ichiro's way of recording vocabulary in late June 2011.

Figure 2 shows how, within a few weeks, Ichiro made superficially important changes in the type of vocabulary that he was focusing on, but he had not yet moved his concern from quantity to quality of vocabulary knowledge. He commented at this point that he was having trouble finding useful information in dictionaries and that he felt the need for a collocations dictionary. In July 2011, when he reviewed the development of his vocabulary practices up to that point, Ichiro saw his progress in quite limited terms:

I didn't have useful ways of learning and using vocabulary. So I referred to the prints [= class handouts on different ways of learning vocabulary] and my classmates' ways. First I wrote down the meanings of the words, and I just wrote down some collocations. I have not found the best for me to learn vocabulary. My goal for the third cycle is to find the best way for me and make use of it.

In the third research project in the autumn semester, as Ichiro looked at Corporate Social Responsibility issues to do with the tobacco industry, some subtle shifts took place in his way of recording vocabulary:

- disruption: when a problem stops something continuing
 - cause (great / serious) disruption
 - |
 - minimal / minimum
- ex) lead to a severe traffic disruption

Figure 3. An example from Ichiro's way of recording vocabulary in October 2011.

Figure 3 lets us see how Ichiro had reduced the number of connections that he recorded for a particular item. With the introduction of relationships of equivalence and opposition (i.e. cause [great—serious] disruption—minimal/minimum), he achieved a much greater degree of organization between the elements in this mini lexical network. This points to a growing qualitative dimension to decision-making and sense of self-direction on Ichiro's part. Just over a month later Ichiro's way of organizing his vocabulary notes changed again, as shown in Figure 4. Ichiro was now categorizing different possible combinations into groups and clearly organizing his vocabulary notes by meaning.

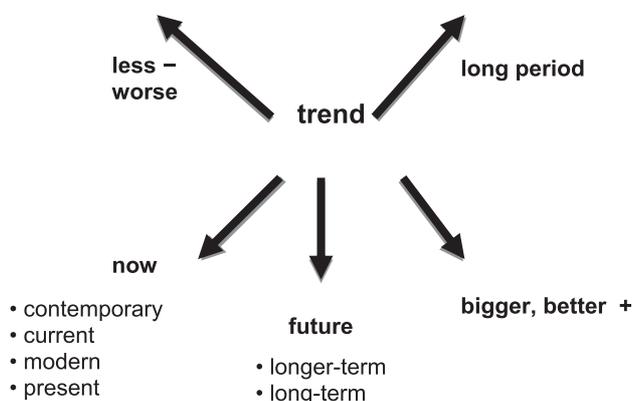


Figure 4. An example from Ichiro's way of recording vocabulary in November 2011.

Ichiro put his changing goals and developing practice in these terms:

My goal is to explain difficult words in easy words to make my partner understand it, and to make me understand it. So, when I find the words that I don't know in my research, I use E-E dictionary and understand the meaning in English. I focus on 'new' words and key words in my research. Even if the key words are not so difficult, I look up the words in E-E dictionary, and find some connection words. It makes easy for me to explain the important points in my research. The biggest change is that I use E-E dictionary and collocations dictionary. I hadn't used these dictionaries, used only E-J or J-E dictionaries. I found that E-E dictionaries and collocations dictionaries are very interesting. I do not only look up in dictionary, but try to use them when I write some reports and makes notes as much as possible. By doing so, I think I am developing my vocab [sic] more quickly.

Ichiro's self-evaluation lets us understand how the development of his vocabulary practices was bound up with his making sense not only for himself but also for other students in the class, as he explained and discussed his research with them. Explaining content knowledge to himself and to others is the central mediating process by which he realized the need to reconstruct and extend his knowledge of

vocabulary that he already knew. In short, Ichiro started developing different connections for key vocabulary to “explain the important points” in his research.

A number of important factors can be identified in Ichiro’s continuing lexical story. Ichiro was involved in the development of his vocabulary practices, and his involvement came from taking responsibility for determining for himself ways that work best for him. This involvement was closely connected to his interest in his research and being able to explain clearly to others his developing knowledge of the issue that he was researching. Vocabulary development was no longer a solitary struggle for Ichiro: it was connected to specific processes of knowledge construction situated within a particular community of research with his peers. Ichiro was also able to think critically about developing different vocabulary practices for the communicative purposes that he had within that classroom community. He moved beyond dictionary study as the main tool of his vocabulary development: he saw that using vocabulary for other purposes within his university studies offered a positive direction to take, too.

The final part of this paper focuses on how we can interpret these changes in Ichiro’s vocabulary development in relation to wider questions of lexical restructuring and network building. The different changes in Ichiro’s way of making vocabulary notes point to lexical restructuring as a process of semantization (Henriksen, 1999). Initially, in Figure 1, Ichiro’s attempts to organize his vocabulary development seem predominantly (and associatively) organized by his L1 conceptual knowledge. In his vocabulary notes, there are numerous individual associative links, but they are organized in a list all at the same level of generality. Whatever the common semantic bond between them is, this bond remains unclear and has no hierarchical organizing power. In the second example of Ichiro’s vocabulary practices (see Figure 2) one important change is how Ichiro has now started to include definitional information and synonyms in his vocabulary notes. Here Ichiro focuses on recording a large number of near-equivalent items (ask/call for something, demand/request/urge something), and it seems that this stage is driven by the need for him to paraphrase to others important ideas from his research. The third example (as shown in Figure 3) shows Ichiro creating relationships between collocations in his vocabulary notes, based on equivalence and opposition (e.g. cause great/serious disruption—minimal/minimum). There are now fewer items in his vocabulary notes, but these items reveal a great degree of systematic organization to the previous two stages. In the final example (see Figure 4), there are signs that Ichiro is organizing his vocabulary notes according to (multiple) semantic features, judging from the way he categorizes the collocates of trend. There are also instances of semantic polarity in this network, and its components are grouped according to abstracted categorizations that appear separated from everyday concrete experience.

The development of Ichiro’s vocabulary practices can be interpreted as both lexico-semantically and conceptually driven. This allows some interesting connections to be made to a Vygotskian model of conceptual development where word meaning has a central role in mediating knowledge development. Vygotsky (1934) proposed that there are three major phases by which children, through interaction with a more expert other, organize different elements into groups. These three phases might be broadly described as random categorization, associative grouping, and higher-level abstract conceptual organization. The very first phase involves what are

called 'heaps.' Heaps are random subjective groupings of elements where there is no discernible principle of organization at work. The second phase involves what Vygotsky called 'complexes.' Complexes show some degree of conscious objective organization in that they involve groupings of elements according to associative bonds between them. Initially, these associations are based on changing bonds of similarity. Later they may be organized by contrastive bonds where elements are grouped by some shared differing feature. These groupings however are not stable, as the principle of organization used by the individual is likely to shift at some point. Vygotsky also noted that it is difficult for a child to generalize from complexes to think in terms of abstract concepts: "In a complex, there is no hierarchical organization of the relations between different traits of the object. All attributes are functionally equal" (Vygotsky, 1934, p. 115). The final type of complex is called a 'potential concept' or 'pseudoconcept.' This kind of grouping of elements is the bridge towards the third phase of mature conceptual thinking. In a pseudoconcept the child is able to group elements in a concept that appears to be the same as what an adult might do, but crucially the child is unable to "*abstract, to single out* elements, and to view the abstracted elements apart from the totality of the concrete experience in which they are embedded" (Vygotsky, 1934, p. 135). The child's thinking is context bound, in other words. However, by interacting with an expert other (an adult or language instructor, for example), the child begins to understand the sense of a particular concept and to start to generalize. For Vygotsky, it is talking with others that is the central tool in enabling an individual to abstract from concrete experience and generalize towards hierarchically organized modes of conceptual thinking.

Putting Ichiro's stages of vocabulary practice development side by side with particular Vygotskian perspectives, we can see some unexpectedly striking parallels, as shown in Table 1.

Table 1. Grounded Theorization of the Development of Vocabulary Practices in Content-Based Learning

Stage	Grounded development of vocabulary practices	Possible parallels to Vygotskian conceptual development
Stage 1: associative grouping	Numerous individual associative links, but they are organized in a list all at the same level of generality	Heaps: random subjective groupings
Stage 2: equivalence driven by paraphrase	Numerous individual collocational links; no clear (delimited) grouping of collocates	Complexes: groupings by associative bonds, with greater degrees of organization Pseudo concepts: groupings embedded in concrete experience
Stage 3: Increasing abstraction of multiword units	Reduced number of connections; organization by equivalence and opposition	
Stage 4: semantization and restructuring	Categorization and organization by clearly labelled groups	Scientific concepts: abstracted from concrete experience and hierarchically organized

There is no doubt that Ichiro brings greater degrees of observable organization to the development of his vocabulary practices over time. While it is possible that we may see broadly similar stages of development in other learners' practices, realized in different idiosyncratic ways, we must be careful not to assume that all learners will necessarily go through these stages in a linear fashion at equal rates of development. The value of this theorization, in so far as it does hold, is probably best seen in terms of sensitizing us to potential rather than actual fixed stages of development that *different* young adult learners *may* go through *at different times in different ways*.

4 Conclusion

The analysis of Ichiro's VH and practices helps us realize that the more learners start to become engaged in using the language to express their own meanings in communication with others, the more likely they are to break out of single atomistic ways of developing their lexical knowledge. Vocabulary histories like Ichiro's let us understand lexical development as (potentially) closely connected to knowledge construction and associated patterns of conceptual development. On the basis of the claims made in this paper, these patterns seem likely to emerge where a learner:

- can exercise strong control over the content of their learning;
- is engaged in constructing new knowledge of the world through the research-based projects that he or she does;
- keeps developing (and, most importantly, reflecting on the development of) their vocabulary practices over a quite long period.

In the case of Ichiro, we have been able to identify some possible parallels between changes in his vocabulary notes and a Vygotskian view of concept development. By continuing to take a fine look at different learners' stories and their changing vocabulary practices and shifting goals over time, we may hopefully come to appreciate other unexpected dimensions to learners' second language vocabulary development.

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