Phrasal Verbs through DDL

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Abstract
Lo studio esamina due tecniche didattiche utilizzate nell'insegnamento di 10 verbi sintagmatici (*Phrasal Verbs*) a due gruppi di studenti universitari: la prima è basata sulla presentazione di voci di dizionario, la seconda su lavoro cooperativo con campioni reali tratti da un corpus (*Data-Driven Learning* o DDL). Dopo un test iniziale, ciascun gruppo ha lavorato sul significato contestuale di 5 verbi presentati tramite voci di dizionario e di altri 5 presentati tramite campione di frasi tratte da un corpus. Il confronto delle due tecniche e dei due gruppi di studenti mostra che l'uso dei corpora può presentare vantaggi nell'apprendimento di nuovi elementi lessicali e nel consolidamento di lessico noto. L'effetto positivo è particolarmente significativo per il gruppo più maturo e professionalmente motivato. Per alcuni verbi l'utilizzo del dizionario è risultato addirittura negativo.

Two techniques are examined for teaching 10 Phrasal Verbs (PVs) to two groups of university students: dictionary presentation and concordance-based Data-Driven Learning (DDL). After checking their prior knowledge, 5 PVs were introduced via DDL, 5 via dictionary entries. The two techniques were compared, as well as the two groups of students, towards an assessment of DDL as a motivating and effective teaching aid. The results show that DDL can be a productive way to teach new lexical items and to consolidate old ones. The difference was statistically significant for the group which was smaller in size, more mature and working with corpus samples on screen rather than on paper. DDL, independently of classroom attendance, was a positive aid, whereas dictionary presentation was detrimental for some of the verbs involved.

Parole chiave: CALL, Data-Driven Learning, English language teaching, Linguistics, Teaching methodology

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Recent teaching protocols have challenged the classical notion that learning a language amounts to memorising a set of grammatical rules to be applied to a set of lexemes. Whereas wide-scope rules may apply to whole sets of lexemes and therefore may be formally acquired, fine-grained rules may be embedded in the lexemes themselves. In this view, "conventionalised chunks" of speech have a key role to play in language usage and L2 learning (Brunner & Steyer 2007; Sinclair 1991; Hanks 2004). As a consequence, the interest has shifted from single words to multi-word expressions, of which English Phrasal Verbs constitute a particular subset, albeit not the most representative for lexicalised grammar.

1. Explicit/Implicit Grammar and Data-Driven Learning

Since Johns' (1986) seminal proposals on applying concordancing to language teaching a lot of words have run under the bridge. Research has confirmed that corpora can be very valuable teaching tools in and out of the classroom (see for instance the papers in Braun, Kohn & Mukherjee 2006). Corpora offer the advantage of plugging learners directly into real-world language, giving them the responsibility of working rules out for themselves. This philosophy is perfectly in line with recent models on the teaching of grammar, where **explicit** grammar teaching has been replaced by more **implicit** modes.

Between the "no-grammar" and "yes-grammar" movements, the pendulum is still swinging; some will exclude formal grammar from the classroom, following the intuition of scholars like Krashen (1993) and Doughty and Varela (1998). According to them, exposure to (comprehensible) L2 input will be sufficient, and grammar serves very little purpose, since the mind acquires L1 and L2 in very similar, natural ways (Schwartz 1993). Others disagree, and strongly recommend that formal grammar instruction precede later stages of "meaningful" and meaning-based activities: explicit grammar should be the prelude to meaningful practice. This stance is known as **Focus on FormS** or **FonFs** (see Ellis (2005) DeKeyser (1998)). Finally, scholars like Long (1991; 1996) propose a middle course, code-named **Focus on Form**, or **FonF**, based on the assumption that only language which is noticed by the learner leads to learning. As students attend to meaning-focused activities, they will express questions and manifest needs about their grammatical knowledge. These will also transpire from their errors. Grammar should be introduced only as a consequence of such explicit or implicit needs, subservient to the flow of meaningful communication.

Recently, the latter two theories have somewhat merged, in a general approach described by Ellis (2006) as "**pre-emptive FonF**": this implies that practice based on meaningful activities may be preceded by more or less explicit grammar tuition, or may consciously address specific grammar needs which are considered a basic foundation for later implicit grammar learning. It is clear by now that some degree

of explicit instruction is beneficial in the long run (Norris & Ortega 2000), and teaching practices which completely exclude at least some form of explicit grammar and vocabulary teaching are often the least successful. In this context, Data Driven Learning (DDL) is a unifying practice for the drive towards focus on meaning and the need to focus on form.

A famous definition of corpus-based teaching like Data-Driven Learning described it as "the attempt to cut out the middleman as far as possible and to give the learner direct access to the data" (Johns 1994, p.30). This spirit aims to help students along the path of direct quality textual analysis. DDL fosters independent learning of collocations and allows learners to personally use corpora and tools to search for significant collocations. The core pedagogical motivation for DDL is neatly stated by Boulton (2009, p.38): "Teaching and learning are not symmetrical activities: without learners, the teacher is redundant, but learning may occur without a teacher. It may even be, in some cases, that learning is more effective without a teacher, i.e. when learners discover things for themselves".

2. Data-Driven Learning: didactic groundwork

Data-driven Learning relies on the use of corpora in a language learning environment. The central didactic premises of DDL hinge on cognitive and cooperative considerations, in that the teacher is not the ultimate repository of knowledge with students as passive listeners, but the meaning and functioning of linguistic structures is probed cooperatively by all participants, with an open-ended perspective as to what features and answers the search may lead to[1].

Cognitively, many skills can be fostered by DDL, like "predicting, observing, noticing, thinking, reasoning, analysing, interpreting, reflecting, exploring, making inferences (inductively or deductively), focusing, guessing, comparing, differentiating, theorising, hypothesising, and verifying" (O'Sullivan 2007, p. 277). Several authors warn about the necessity to keep general pedagogical considerations in mind while using DDL, like learning styles, students' preferences, attention spans, variation and combination of methods (combining 'classic', 'high-level exploration' corpus-linguistic methods with form-focussed, 'lower-level exploration' methods) (Braun 2007).

In this view, the text is not a predetermined authority but it can be manipulated and reinterpreted by the reader, who then becomes an explorer, a "traveller" following a process of discovery (Bernardini 2004, p.22). This philosophical stance has long been applied in reading and communication studies, since the "death of the author" (Barthes 1967). Texts are created by readers' re-interpretations, and everyone is empowered to associate, dissociate and reassemble textual and conceptual relationships in their mind.

Working with corpora has proved to be beneficial (Aston 2001b; Mukherjee 2006), particularly to advanced learners. Classroom uses of corpora imply an inductive

approach to language teaching which consolidates learner autonomy, language and cultural awareness, authentic language usage, learning-by-doing, personal motivation, and other central notions of L2 didactics. Reservations to this approach may stem from objective limitations (such as lack of technological knowledge, lack of resources, ignorance of possibilities) and subjective/affective barriers towards the risk of losing class-management, knowledge-control, face, authority on the part of the teacher or suspicion towards technology in general.

Although DDL is generally preferred with advanced learners who have already developed a cartain degree of L2 autonomy and require less Focus on Forms, several authors have claimed that it usually takes relatively little time and skill to master the necessary procedures for corpus work in the classroom (Bernardini 2001; Boulton 2009; Sinclair 2004b) even at lower levels.

Boulton (2008) examined the acquisition of two PVs (*look up* and *pick up*) in order to check whether lower level students would benefit from exposure to raw linguistic data through the use of corpora in class. He administered 113 low-level students 25 concordance lines of *picked*, *picked up*, *picked (something) up*; and *looked*, *looked up*, *looked (something) up*. The results were positive, in that all levels, including the lower ones, showed improvement, implying that even beginners may benefit from DDL. Specifically, learners were able to discern and acquire language patterns.

Word searches can be for specific features or simply random ("serendipity" searches, see Bernardini (2000)) and the methodology should result in increased motivation, since the learners are using adaptive behaviour "in detecting regular patterns in the data which are meaningful to them, rather than attempting to learn and apply rules they are given" (Boulton 2010, p.534). This is in keeping both with Focus on Meaning and Focus on Form theories.

Even though DDL corpora are also known as "classroom concordances" (Beck 2007), the methodology lends itself well to work outside the classroom. This allows for full student autonomy, and in fact, in or out of the class, "activities can be plotted on a cline of learner autonomy, ranging from teacher-led and relatively closed concordance-based activities to entirely learner-centered corpus-browsing projects" (Mukherjee 2006, p. 12). Learner autonomy and self-correction improve through DDL, as one can see in Landure and Boulton (2010), where the use of DDL-style corpus consultation with other tools (like dictionaries and on-line translation engines) seemed to help students improve their written work without teacher intervention.

In spite of the large amount of research into corpus-based language learning, hands-on work with corpora has remained marginal in secondary schools, and teachers should perhaps move from "data-driven learning" to "needs-driven corpora" (Braun 2007). Language learners can thus become language researchers themselves, engaging in the analysis of real data (Cheng & Warren 2007).

DDL is also useful, along with classic companions like dictionaries, in refining translations and training translators, as shown by Zanettin (2009) with several examples of corpus-based translation activities.

Not everything about DDL is a true bargain; in order not to use these activities acritically in the classroom, we must take into account the fact that corpora are re-contextualisations of real communication and thus require pedagogical mediation (Widdowson 2003); also, their format is not primarily meant for L2 students (requiring further mediation and adaptation) and often smaller, tailored corpora can be more appetising and useful, considering particular students' needs. One of Widdowson's caveats is that using genuine materials like concordances may hinder their contextualisation on the part of the reader/student, resulting in incomplete or skewed language learning.

Since Chambers (2007) notes how only very recently we have witnessed the integration of corpus-based activities into pre-service teacher training, we have involved in the present study a group of students from the Faculty of Education of Bologna university who were training to become primary school teachers.

3. Learning Phrasal Verbs

Phrasal Verbs are common in everyday usage, particularly in oral and informal contexts and should be a central issue in the teaching of English. Dempsey *et al.* (2007) detected a clear correlation between informal and oral styles of communication and increased usage of PVs. It has been conjectured that with an average speech rate of 120 words per minute or 400 words per page of printed text, we would encounter a PV "more than once every five minutes (4'43") in conversation", and "on every page and a half of fiction" (Boulton 2008, p.587).

PVs have always been difficult for non-native speakers and are often the target for error or avoidance strategies[2]. More specifically, errors in this area may imply avoidance, style deficiency, semantic confusion, lack of collocational awareness, using 'idiosyncratic' Phrasal Verbs, syntactic inaccuracies, interlingual and intralingual confusion (Cock 2006, p.1-5). Besides the differences between first and second languages, also the semantic/syntactic make-up of Phrasal Verbs may be one cause of the learners' poor performance (Liao & Fukuya 2004). One possible complication is that these multi-word compounds have to be learned, memorised and used as holistic units (Siyanova & Schmitt 2007).

Finally, the very fact that there is still no unified theory of English PVs proves how they are problematic both for linguists and language teachers, not to mention L2 learners. Indeed, if even "linguists and grammarians struggle with nuances of PV definitions, of what instructional value could such distinctions be for the average second language learner?" (Gardner & Davies 2007, p.341). It remains true though that learners should be familiar at least with the use of the most frequent items.

Even though I will keep technical definitions to a bare minimum to deal more specifically with learning issues, it must be noted how definitions of PVs abound, confusingly both for learners and teachers. Most definitions are inclusive, in that they state syntactic, semantic, phonetic, etc. criteria to determine whether a compound is a PV or a mere verb plus preposition construct. Items are included on the grounds of their (in)separability, replacement by one-word verbs, literal vs. metaphorical meaning, etc. (Bolinger 1971; Palmer 1988). Darwin and Gray (1999) offer an alternative, exclusive definition, based on a set of criteria to determine whether a compound is not a PVs: in this view all items are considered PVs unless otherwise proven.

Whereas some semantic approaches classify PVs into two clear-cut categories – transparent and opaque (Gilkerson 2007) – they may be more realistically viewed as belonging to several categories or perhaps even to a progression of functions from totally predictable to totally unpredictable[3].

The simplest definition of PVs sees them as idiomatic compounds consisting of a verb followed by a particle, where the meaning of the whole is not given by the sum of its parts, like in the expression _make up your mind_. They can often be replaced by single-word verbs and are typical of informal/spoken rather than formal/written language (Biber, Conrad & Leech 2002; Biber _et al._ 1999; Dempsey _et al._ 2007).

To quote an example of a more technical view, we could look at Celce-Murcia's (1999), where PVs are grouped into four (semantic) categories: literal, aspectual, idiomatic, and polysemous. **Literal** PVs like "sit down" and "stand up" are the most transparent class. **Aspectual** PVs are less transparent but not fully idiomatic, and they comprise four subcategories, namely **_inceptive_** ("set up," "start out," "take off"), **_continuative_** ("hurry along," "carry on," "play along", "sleep away", "dance away", "goof around," "play around", "read through", "think through"), **_iterative_** ("do over," "write over"), **_completive_** ("eat up," "burn down," "mix up"). **Idiomatic** PVs, easy to identify but hard to teach to L2 learners, include "keep up" and "chew out". Finally, **polysemous** Phrasal Verbs may have several meanings, as in "check out". Idiomatic, polysemous and grammatically alternating PVs[4] often cause problems to students and are therefore avoided.

How are PVs presented to L2 learners? Different textbooks present students with PVs in idiosyncratic order of importance, without a common ground for establishing which verbs should be introduced first. In this area there seems to be no rationale…

3.1 Frequency studies
A few recent studies addressed the frequency of usage of PVs, both in native and non-native English.

Gardner and Davies (2007) searched the BNC for PVs in order to estimate their frequency.

The most frequent PVs in the BNC are: *go on*, *carry out*, *set up*, *pick up*, *go back*, *come back*, *go out*, *point out*, *find out*, *come up* (Gardner & Davies 2007, p.358).

Siyanova and Schmitt (2007) compared the relative usage of 26 single-verb/PVs pairs with meaning equivalence, by examining three different corpora (oral and written native English, written learners' English). They investigated three issues: the relative frequencies of PVs vs. single verbs in native written and spoken English; how likely advanced learners of English are to use multi-word/one-word verbs like native speakers in spoken and written contexts; how does exposure to an L2 environment affect the likelihood of non-natives using multi-word vs. one-word verbs. They concluded that even though PVs are overall more typical of oral modes of expression, many amongst them are not more frequent than their respective single-verb counterparts in either spoken or written language, confirming Biber's (1999) findings: "multi-word verbs are more frequent in spoken than written discourse. On the other hand, many of the multi-word verbs are relatively infrequent in either mode of discourse" (*Ibidem*, p.124). In the BNC written corpus, in contexts where both options were possible, the single-word verb was still preferred for 18 out of 26 items. But the same also happened in the CANCODE native oral corpus. For the students, the ICLE written corpus was used, and it transpired that longer exposure to the L2 did not favour their use of PVs. In general it appears that PVs are not more frequent than their respective counterparts.

In a questionnaire experiment "the learners […] do not have as strong a preference for them as the natives" (Siyanova & Schmitt 2007, p.129).

Wray and Perkins (2000) claim that advanced learners are often given away in their non-nativeness by the failure to use native multi-word expressions.

4. DDL vs dictionary. Description of studies

Two quasi-experimental studies were run to check my students' response to DDL treatments in the learning of PVs.

The first experiment compared DDL teaching of PVs with dictionary presentation, in a university English language course for prospective primary school teachers. The second tackled the same problem with a different group of university students, with a non-teaching vocational curriculum. The aim was to see whether DDL produced better results for both groups, whether the students' performance on PVs generally improve at the end of the two courses, irrespective of teaching method, which verbs improved most, whether semantic richness posed a problem, and finally whether the two groups responded differently to DDL learning.

4.1 Methodology and data

The choice of PVs here included was based on the list in Gardner and Davies (2007), from which a subset of 10 verbs among the 26 most frequent in the BNC was taken. The 10 chosen were verbs appearing in the various reading materials (including books) used in class for both courses: *look up, pick up, carry out, set out, set up, make up, take over, work out, turn out, give up.* In order to build a concordance list of these verbs I queried the Corpus of Contemporary American English at Brigham Young University (http://www.americancorpus.org/) for verb plus particle within 5 right positions.

After an entrance test which checked various skills, including knowledge of the main meaning of 10 common PVs, the students attended a 30-hour language course which included cooperative activities based on corpus material on the verbs in question. Five PVs were presented using DDL, and 5 using dictionary entries[5].

For one group selected samples of 5 verbs from the Corpus of American Contemporary English (COCA) were printed on sheets containing between 20 an 30 lines each, and these were handed out during the lessons, whenever one of the PVs in question emerged from any class activity. For the other 5 verbs, dictionary entries were presented to the students in printed form, so that they could work in pairs.

For the other group, a projector was used to view and work on the materials. A time of 15-20 minutes was given each time to work out possible meanings of the verbs in context. Less time was usually required for dictionary entries, which the students found easier to examine. Students worked in groups of two or three, and the teacher walked amongst them to help with unknown contextual words. All the students were then tested at the end of the course on the same 10 PVs present in the initial test, including a few cases of polysemy encountered in class. The final test had therefore 19 gapped sentences for the first group and 29 for the second (see below for details).

In the context of the present survey, it would have been impossible to use computers to let the students search the corpora freely. Even though many previous studies have relied on specific software in the classroom, there is a widespread feeling that paper-based materials are fully compatible with DDL (Boulton 2010; Breyer 2006; Frankenberg-Garcia 2005).

Language authenticity was granted by not altering nor editing the samples: each line was kept intact. However, the adequate concordance lines needed were selected from the total hundreds churned out by the corpus to eliminate doubles, unintelligible segments and non-cohesive text. The "most illustrative", in Stevens' words (Stevens 1991, p.51) were retained. Such selection and quality control is necessary considering that concordances consists of *samples*, not *examples* (Gavioli 2005, p.7).

I queried 2009 sources only, quoting the text typology on the leftmost column, as we see in the following excerpt from the concordancing for "work out":

FIC	you can't be bothered to **WORK OUT** the cost of an extra tariff of a copper... or work
FIC	I talked to him yesterday. He's in. We only have to **WORK OUT** the details with his agent, pull together a screenplay and a director.
MAG	Even your lungs are using oxygen more efficiently at this time. You'll **WORK OUT** harder with less perceived effort and are less likely to injure yourself.
MAG	Write down every reason you have not to **WORK OUT** or eat healthfully.

The dictionary entries for the 5 verbs to be presented via dictionary definition were mainly taken from the Cambridge Phrasal Verbs Dictionary (2006), as shown below for "take over":

take (sth) over
to start doing a job or being responsible for something that another person did or had responsibility for before. *He took over from the previous headmaster in February. She took over as manager two weeks ago. Colin Lamb has taken over responsibility for this project.*
to get control of a company by buying most of its shares (= the equal parts into which the ownership of the company is divided). *The company he works for has recently been taken over.*
to become more successful or powerful than something or someone else that is involved in the same type of activity. *France has taken over from Spain as Europe's favourite holiday destination. A 21-year-old sprinter has taken over from Graf as Germany's top sportswoman.*

Lemmas were double-checked on the OED, but only a handful of examples were added from there.
The students worked on printed or screen-projected versions of such examples, helping each other understand the meaning of the verbs and their contextual sentences with limited teacher intervention.

4.2 First group (PST)
The first groups affords us a comparison between DDL and dictionary class-work in a university English language course for prospective primary school teachers (PST), with a simple within-group pre-post contrast. The sample was a convenience intact course-group (which may cast some shadows on the internal validity of the research).

4.2.1 Initial test

The PST group consisted of 82 students. They took the initial language test including an exercise with 10 multiple-choice sentences to check their knowledge of 10 Phrasal Verbs. Each verb was contextualised in its most common meaning according to frequency and was gapped out, and the students were asked to choose the correct item amongst 4 given in a multiple-choice task[6]. Their knowledge of the meaning and usage of these very common PVs was limited: the average of correct answer per student less than 3 verbs out of 10 (Median=2.74, S.E. 0.44).

4.2.2 Procedure

Half of the 10 verbs in question were taught via DDL, with students working in groups of 2-3 people. Little theoretical background was offered on the rationale of corpus linguistics, due to time considerations. The groups usually spent no more than twenty minutes on their batch of samples, with frequent questions about unknown words which were explained to them individually. A final recap of the emerging contextual meanings was projected on-screen, with at least a few significant examples for each meaning encountered by the various groups. Students were invited to copy all the examples for later revision. This way, each student benefited from the discoveries made by all the groups, and each should have been able to learn the polysemous as well as the initial core meanings. Most verbs appeared with all the possible meanings which would emerge from dictionary consultation. The other half of the verbs were presented with dictionary entries as described earlier.

4.2.3 Data analysis

The initial test was part of a larger entrance exam, including 10 total items on PVs, each one being a multiple-choice sentence requiring the main meaning of the PV. The final test took into consideration the original PVs in their core meaning, plus the extra polysemous uses which had been discovered in class; the additional 9 sentences tested the polysemy of the verbs so that 19 total gapped sentences were produced[7].

### 4.2.4 Between-student performance on the 10-item test

The correct initial percentage between students was compared with the final percentage for the following verbs, singling out the 10 core meanings present in the initial test.

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Verbs	Correct Init	Correct Final	Gain	Method
carry out	15.85%	21.43%	5.58%	DDL
give up	41.46%	55.95%	14.49%	DICT
look up	37.80%	45.24%	7.44%	DICT
make up	4.88%	25.00%	20.12%	DDL
pick up	2.44%	39.29%	36.85%	DDL
set out	26.83%	28.57%	1.74%	DICT
set up	19.51%	35.71%	16.20%	DICT
take over	39.02%	29.76%	-9.26%	DICT
turn out	28.05%	33.33%	5.28%	DDL
work out	31.71%	32.14%	0.43%	DDL
Mean	24.6, SE 4.36	34.6, SE 3.21		
Median	27.44, SE 13.81	32.74, SE 10.14		
Skewness	-0.509, SE 0.687	0.357, SE 0.687		
Kurtosis	-0.966, SE 1.334	1.032, SE 1.334		

Looking at the Gain column we immediately see that, apart from *take over*, all the core meanings of verbs showed some improvement at the end of the course. This is reflected in the Means and Medians showing a higher percentage of correctness in the final test.

The Medians[8] show a 6% improvement in the number of correct PVs inserted in the gaps, from 27% to 33%, and the Wilcoxon Signed Ranks Test shows that the difference is significant ($z=-2.191$, $p=.028$). So, even if the gain is contained, it seems that it was relevant and the overall course improved the students' use of PVs, irrespective of methodology.

A chart of the proportional gain for each verb (on the basic 10 core meanings) shows which were learnt better (or worse). Only *pick up*, *make up*, *set up*, *give up*, *look up*, *carry out* and *turn out* consistently improved:

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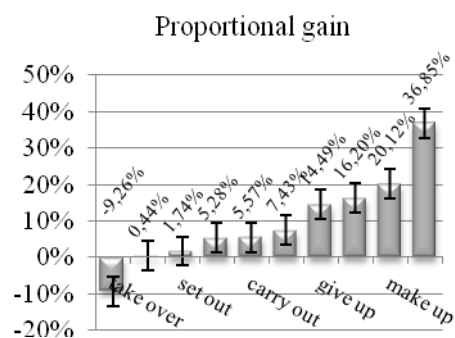
Looking for a possible correlation between the improvement and the semantic richness of the PVs we notice that no link can be established between semantic complexity and learning curve (Kendall's T-b=.303, *p*=.236).

4.2.5 Between-students on the 19-item test and DDL effect

To test the expanded meaning beyond the 10 initial items, a comparison was run between the percentages of correct answers of the initial 10-item test and the final 19-item test. Students averaged 24.6% correct choices at the beginning of the course, and 35.2% on the extended test comprising examples with 19 polysemous PVs (Medians improved from 27% to 32%), yielding a significant divergence (Wilcoxon Signed Ranks (2-tailed): z=-1.988, *p*=.047). Learning did take place even in the broader context of polysemy.

Pick up, *make up*, *give up* and *set up* improved both in the monosemous and polysemous readings, *take over* was worse at the end of the course than before, and the others had a somewhat mixed behaviour.

Analysing the effect of **DDL vs dictionary** teaching, the difference between the percentages of correct answers before and after the course, on the 10 core meanings alone was as follows:

	DICTIONARY	DDL	
give up	14.49%	5.57%	carry out
look up	7.43%	20.12%	**make up**
set out	1.74%	36.85%	**pick up**
set up	16.20%	5.28%	turn out
take over	-9.26%	0.44%	work out
Average Difference	**6.12%**	**13.65%**	

Even though the average difference was not significant (Wilcoxon Signed Ranks (2-tailed): z=-1.214, *p*=0.225), some individual verbs scored significantly better (bold above).

A second Table was also computed, for the learning difference between the initial 10 items and the final 19 items:

DICTIONARY		**CORPUS**	
give up	10.04%	-0.85%	carry out
look up	0.2%	15.12%	**make up**
set out	-2.83%	45.56%	**pick up**
set up	2.49%	-0.05%	turn out
take over	-14.02	-4.71%	work out

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DICTIONARY		CORPUS
Average difference	-0.83%	11.01%

Here too, the discrepancy is not significant (Wilcoxon Signed Ranks (2-tailed): z=-0.944, *p*=0.345). From this we gather that DDL – and the cooperative class work associated with it – is a better tool for learning some verbs, but not others, and it fares worse with semantic complexity. In general, a very weak effect is noticeable.

4.3 Second group (LM)

The second group of students (LM) was much smaller than the first, from a different type of course. These students were attending a Master's degree course in Social and Educational Science at Bologna university. 30 students took part, after the exclusion of quite a few cases of abandonment[9]. The design was based on a within-group pre-post contrast, as in the former case. The following few differences were introduced, partly for research, partly for practical reasons.

First of all, the modality of presentation could not be on paper, but it had to rely on a wide screen with an overhead projector connected to a PC. Students were thus invited to collaborate with their immediate classmates, but they could not formally work in groups of two or more like the first group. This was due to causes independent of my will, but it gave me the opportunity to partially test the efficiency of this mode of presentation against paper presentation. Attending students were asked to copy all the examples for later revision, and before the final test all the class materials (concordances and dictionary entries) were mailed to the all the students, including the low-attending or non-attending ones.

Secondly, after a 10-item PVs test (identical to the former group) the final test included 29 items, 10 extra with respect to the PST test, including a few additional cases of polysemy which had emerged during this course.

Finally, in order to adjust for attendance vagaries, the amount of classroom presence was reported on a 5-level percentage scale, considering that attendance was more erratic for this group than the other.

4.3.1 Methodology

In line with the previous study, after the pre-course 10-item test, at the end of the course the final check-up took into consideration the original PVs in their core meaning plus a few extra uses which were noticed and commented on during the students' class work. This resulted in 29 gapped sentences. All verbs were eventually checked for the following meanings: *carry out* (complete, create); *give up* (surrender, leave, stop); *look up* (search, visit); *make up* (compensate, constitute, improvise, invent); *set out* (begin, leave); *work out* (compute, understand, agree, train); *pick up* (transport, learn, take); *set up* (frame [criminals], arrange); *take over* (incorporate, substitute, overtake); *turn out* (gather, result, expel, produce).

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4.3.2 Initial test

Prior to the course, each subject was given the same comprehensive test of the former study, with 10 multiple-choice sentences checking their knowledge of 10 Phrasal Verbs. Students' knowledge of the meaning and usage of these common PVs was very limited, with a correctness Median of 2.8 (S.E. 0.37). Approximately one quarter of the verbs were filled in appropriately by 30 students and 5 students guessed no verb at all.

4.3.3 Between-student performance on the 10-item test

If the initial test on 10 PVs gave rather disappointing results, the final test on the initial 10 verb meanings, shows some improvement: the Median climbs from 2.8 to 4.

In terms of percentage 8 verbs improve, as we see below:
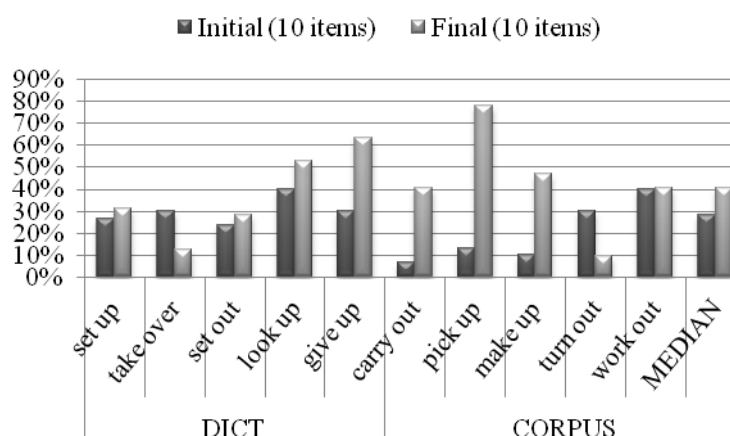
At the end of the course no student showed a zero performance on the base 10 items.

The difference is highly significant (2-tailed t=5.188, df 29, p<.001), showing a clear improvement at least on the basic 10 meanings of the verbs. Also the correlation between initial and final results is good and highly significant (Wilcoxon Signed Ranks: z=0.466, *p*=0.009), showing that the initial level reflected into the final competence gain. Verbs which were initially familiar tended to fare better also at the end.

4.3.4 Between-students on the 29-item test and DDL effect

In the class practice a few extra meanings emerged, so it seemed appropriate to test their learning beyond the 10 initial ones, as with the previous group. A comparison between the percentage gain of correct answers between the initial 10-item test and the final 29-item test, further strengthened the case for language gain: the

Median goes from 21.25 with DDL to -13.44 with dictionaries (Wilcoxon Signed Ranks (2-tailed): $z=-2.023$; $p=0.043$).

The correlations between the test results and the five attendance levels were not significant, so that there was no relation between the amount of attendance to the course and the students' improvement on these PVs. This levelling may depend on the fact that all the students, even the low-attending ones, had received the class materials by mail and were able to study them in their own time.

Analysing the effect of **DDL vs dictionary** teaching, the difference between the two methods was significant only on the 29-item test (Wilcoxon Signed Ranks (2-tailed): $z=-2.23$, $p=0.043$).

4.4 Group comparison

Although the two groups of students belonged to different courses from two separate academic years, their initial knowledge of English was similar, and the combination of verbs with methods was coordinated so that it is possible to draw a comparison to see whether they responded differently to DDL learning, whether these PVs caused verb-by-verb discrepancy of outcomes, and whether the two presentation tools (printed paper or overhead projection) yielded different results.

A synoptic histogram of the results across groups shows the following, where we see a comparison of proportional gain between the initial and the final tests, based on the core 10 meanings of the verbs:

Gain on 10 base verbs
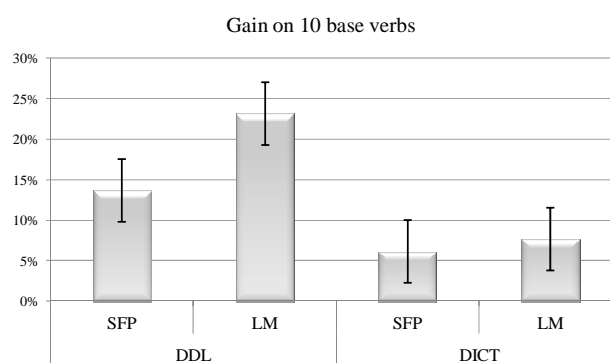
Both treatments were effective in the trainee teachers group (PST) with a slight 'anecdotal' advantage of the corpus approach (just a quick glance at the error bars for the PST group shows that significance is virtually null), while the second group (LM) benefited much more decisively from DDL (significance is strong for this group, a sign that DDL was undoubtedly a powerful treatment).

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If we look at the gain for the all-inclusive final tests, comparing the difference between the initial test for the two groups and the respective 19- and 29-item final tests, we get the following picture:

Gain on all final items
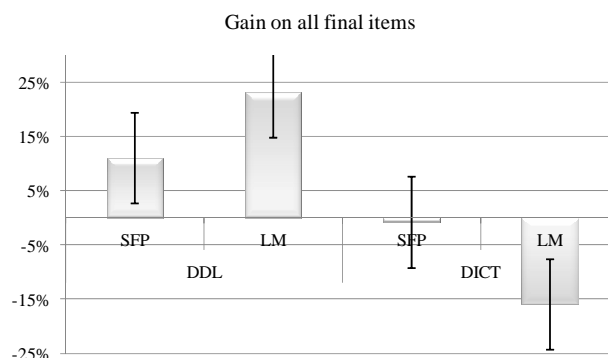
If the trainee teachers (PST) are here confirmed as marginally influenced by the difference in methodology (where dictionary work seems slightly unfavourable), the other group is dramatically split between the effects of dictionary and DDL teaching: the latter is positive, whereas the former proves detrimental: dictionary presentation for this group was particularly unhelpful for the acquisition of semantic richness, whereas DDL was effective. So DDL proved to be a proficient method not only in the reinforcement of the base 10 meanings but also in the teaching of newly encountered uses of these PVs.

Wilcoxon Signed Ranks

	PST Percentage Gain on 19-final	LM Percentage Gain on 29-final
z	-0.944	-2.023
df	1	1
p	0.345	0.043

This proves that only the second group (LM Percentage Gain on 29-final) did significantly improve.

The discrepancy between the two groups may be due to the smaller size of the second group, the different intrinsic makeup of the students, in particular the older age of LM, their different motivations or other variables, and it is beyond the scope of the present study. Given the small size of the second group though, this is by no means a definitive result, and the positive (or negative) influence of the two modes of presentation here compared will have to be further investigated, also controlling for other confounding variables such as age, motivations, class size, social makeup, previous language experience, etc.

5. Discussion and conclusions

The outcome of this study it favourable to DDL. The results were particularly clear with the second group, which was much smaller and more mature than the first, and bore a completely different vocational posture. These students had already got a degree, many were workers specialising on topics which motivated them, and English was a door to possible career enhancements. They were also used to being more critical and responsible agents of their own training, and perhaps invested a different kind of energy in the creative work required by DDL. In short, they may have been naturally more sympathetic and psychologically attuned to the demands of DDL.

Not so with the first group, who paradoxically should have been more motivated, since they were studying to become primary school teachers of general culture topics, including English. Perhaps because of the younger age and greater number in the group, they were less enthusiastic, and often, rather than concentrating or asking for help, got discouraged by the fact that some of the samples were not immediately clear because they contained rare or unknown words. So, the first group was on the whole more passive and psychologically (or ideologically) prone to traditional teacher-centred lecturing rather than cooperative, creative and critical work.

A few considerations emerge from this experience regarding DDL.

Recent language learning theories stress two key elements: the importance of personal L2 identity and bottom-up formulaic pattern forming as a central learning mechanism. Lexical priming (Hoey 2005), for instance, shifting from word pattern behaviour towards language user's behaviour with words, claims that grammar is a result, not a cause, of lexical patterning, and there is not one, but multiple grammars, many overlapping. It purports the uniqueness of the language user's experience with language, where lexical acquisition is a long process of fine-tuning frequent word associations. We can look at concordance work as a kind of 'priming diet', where repeated encounters of lexemes offer new priming opportunities for the students[10]. Frequent encounters with a verb in varying contexts will feed our knowledge of its collocates, and will prime us to expect some words (but not others) to co-occur with it, in a life-long construction of its 'priming', which we progressively adjust as attested collocates surface or sink.

DDL should not be presented or felt as an alternative to other methods. It has been conceived with the intention of supplementing and broadening the tested pathways of 'traditional' teaching. Most textbooks and 'classic' activities nowadays stem from or refer to analyses based on corpora. In fact, rather than ask what is DDL practice, we may sometimes ask what is **not** DDL? Much language teaching based on available materials, intuitions of good practitioners, the balanced richness of extensive reading and even graded readers is indeed a disguise for implicit

DDL-based activity. This is true in two ways: directly, because the text itself is a small-scale corpus or English which is very nearly authentic; and indirectly, because most materials nowadays benefit from background corpus analyses. If small ad hoc corpora are considered efficient primers, then course books, corpora-based dictionaries and even the hunches of a well-read teacher should.

Another concern for the DDL-minded teacher regards the time factor. With a stringent language agenda, it is probably better to keep DDL to a bare minimum and use it at times where respite is needed, perhaps to check expressions found in the traditional class materials using contexts beyond the textbooks.

Another problem concerns missed generalisations. How can we be sure of the significance of a sample which may be skewed? An old problem, but a risk well worth taking. Unfortunately, language teaching, with its limitations of time and space, is always prone to missing some generalisations. Here is where teachers' intuitions come handy as a guideline in the process of selecting the samples to use or to discard, according to one's own perception of common contextual usage of target expressions.

We must also beware of falling into the 'teachers' likes trap'. We, as teachers and language enthusiasts, like DDL. *Ergo*, students must like it. Unfortunately, this is a totally teacher-centred approach, down the very cline we are trying to avoid, completely out of sync with student-centred approaches. There may be situations where a whole class or parts of it do not feel at all comfortable with DDL for various reasons: insufficient familiarity with the language, personal motivations, time factors, etc. It is obvious that in similar cases DDL should not be foisted on students willy-nilly, but rather broken in gently or scrapped where it is not experienced as a positive, non-anxious path to learning.

Similarly, the 'teacher conspiracy' is another hazard. Students unconsciously know what we teachers consider important in their study and performance. They may conspire with us to do exactly and only whatever we may be favouring at a particular time of our career. Surely, in some respects we should turn this on its head and do what the students want to do, so that we use corpora only with their informed consent.

On a positive note, we must consider the 'enthusiasm placebo'. Teachers' enthusiasm is infectious. A passion shared may be the key to successful DDL, in that these activities may create nourishing input whenever a student tunes in with the teacher's passion for the fascination of intellectual quests. Surely, this is one of the bright sides of teaching through corpora. If any method is a way to infect students with our passion for the foreign language and culture, it's the way forward.

Notes

[1] Many linguists have recently advocated the use of corpora and corpus linguistics in general. See for instance Johns (1991b), Sinclair (2004a), Wichmann (1997), Aston (1997; 2001a), Bernardini (2004), Burnard (2000), Ghadessy (2001) and Granger (2002). On the use of concordancing see in particular Tribble (1997; 1989), Bernardini (2000), Cobb (1997), Gaskell (2004), Gavioli (1997; 2001), Johns (1991a; 1991b) and Stevens (1991).

[2] See for instance Azzaro (1991; 1992b; 1992a), Dagut (1985), Laufer (1993), Liao (2004).

[3] There are cognitive approaches which advocate the non-arbitrariness of such compounds, including the most seemingly "opaque" ones (Porto Requejo & Pena Diaz 2008).

[4] PVs with object-position alternatives, pre- and post-particle, as in *We will pick **the kids** up/ pick up **the kids***.

[5] Taken from the *Cambridge Phrasal Verbs Dictionary* (2006) and the *OED Online*, June 2009, Oxford University Press; http://www.oed.com/ (last accessed July 29, 2011).

[6] The core meanings were: *carry out* (accomplish); *give up* (surrender); *look SB up* (seek); *make up* (gain time); *pick up* (learn STH); *set out* (leave); *set up* (arrange); *take over* (substitute); *turn out* (become); *work out* (understand).

[7] The polysemous verbs were: *carry out* (a transaction), *carry out* (policies), *give up* (surrender), *give up* (smoking), *make up* (constitute), *make up* (invent), *make up* (time), *pick up* (learn), *pick up* (hold), *pick up* (give a lift), *set out* (arrange), *set out* (leave), *set up* (thieves), *set up* (create), *work out* (understand), *work out* (train); the following verbs emerged only in one meaning: *look up* (search), *take over* (replace), *turn out* (prove to be).

[8] Tests for normality were run before all analyses (Kolmogorov-Smirnov with Lilliefors correction for samples above 50 items and Shapiro-Wilk for less than 50). Medians were quoted and used in most statistics and Means were used only when normality was validated.

[9] Attendance on this course was not compulsory, nor was it possible to require a minimum, many students had jobs, so several students missed a certain amount of lectures.

[10] As suggested by an anonymous reviewer.

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