**‘We learn as we go’: How acquisition of a technical vocabulary is supported during vocational training.**

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This study provides insights into language development in a trades training context in New Zealand. Its key focus is to identify how the acquisition of the specialised words is supported in a primarily practical training environment. Transcribed recordings of 16.5 hours of talk on a building site and in theory classrooms, along with interviews with tutors and learners, were analysed to explore the extent and nature of episodes where attention is drawn to the specialised terms and provide insight into strategies for and beliefs about learning these new words. Findings show that both tutors and learners do draw attention to the language they are using, primarily the meanings associated with new forms, mainly through tutor-talk and tutor-learner interaction. This description of how experienced tutors support their trainees’ vocabulary acquisition is likely to be of value to new and experienced tutors in trades teaching and beyond.

1. **Introduction**

This article, which draws on data collected at a polytechnic institution in New Zealand, concerns how trainees are supported to learn the specialised language of carpentry in a primarily practical environment. During an interview when asked how he learnt this specialised language, one carpentry trainee with English as an additional language replied, “We learn as we go.” This statement suggests that learning takes place as part of learners’ day-to-day interaction on the building site rather than as part of a formal process. Lave and Wenger (1991, p.85) propose that “Language is part of practice, and it is in practice that people learn.” The purpose of this study is to explore what this practice of ‘learning as we go’ entails, by describing how, through interaction in the practice of carpentry training, attention is drawn to the language of carpentry. One carpentry tutor interviewed for the study said, when referring to his learners, “When they can walk like a builder and talk like a builder, then we can start having a conversation”; but how are learners supported to develop the ability to ‘talk like a builder’ so they can have these conversations? Given that “vocabulary is central to understanding and using language at any level” (Hirsh & Coxhead, 2009, p.5), how is developing the language of carpentry, specifically its specialised words, supported in a primarily practical context?

Studies in the area of literacy describe literacy as practices located in social and cultural contexts, rather than a single, universal construct (Barton, 2006; Barton, Hamilton & Ivanič; Baynham & Prinsloo, 2001; Gee, 2000; Street & Lefstein, 2007; , 2000) and a focus on literacy needs to consider the domains where literacy is used (Street, 2001). Literacy is developed through contextual practice, when individuals interact through a process of meaning making, constructing meaning through the activity in which they are engaged (Gibbons, 2003). In carpentry the ‘activity’ is construction on a building site where learners are mediating meaning through participation in and practice of the trade, as they learn how to interact, make sense of and communicate within the domain of carpentry.

Research exploring language and literacy in vocational training has looked at a range of features and challenges of these literacies and of embedding these in vocational training. Roberts et al (2005) define embedding language and literacy as combining their development with vocational skills so that they are integral to vocational training. They explored characteristics of embedding across a range of vocational contexts and found that the teacher supporting language and literacy development “needs the opportunity to support learners at the time of the practical task...providing learning through doing” (Roberts et al, 2005, p.8). Casey et al (2006) explored embedding and its impact on learning and achievement and highlighted that language and literacy need to be “explicitly taught but in ways that learners perceive are clearly integrated within their own vocational motivations and aims” (p.42). In terms of the challenges of vocational literacies, Edwards, Minty and Miller (2013) found that the literacy practices of vocational assessments are more demanding than originally thought, often invisible to both learners and tutors, yet central to success in terms of attainment. And finally, Bak and O’Maley (2015) highlighted the tensions that vocational tutors often have to grapple with between the complexities of language and literacy and embedding these into vocational training. Although none of these studies have focused specifically on how the learning of vocabulary is embedded into literacy development, this research does raise questions around how vocabulary learning is integrated with vocational training.

In the area of English language teaching there has been much research into teaching and learning vocabulary in specialised disciplines and academic contexts. This research has focused on analysing the specialised vocabulary load of texts, exploring the challenges these terms present, and on approaches to teaching and learning (Hirsh & Coxhead, 2007; Mudraya, 2006; Nation & Gu, 2007; Nation, 2007; Nation, 2001; Nation, 1990; Ward, 2007; Ward, 1999). Research has also highlighted that the challenge of learning specialised words in specialised texts is more extensive than originally thought (Chung & Nation, 2003). This challenge is further complicated by ‘sub-technical words’ which can have a general meaning in everyday contexts but can take on a new meaning in a specific discourse, for example ‘solution’ in its general sense but ‘solution’ meaning a chemical substance (Mudraya, 2006). Studies have also been carried out in both secondary and academic contexts, identifying discourse features, syntactical structures and lexical bundles that need to be taught explicitly to ensure that the relationship between language and content is transparent (Creese, 2006; Cortes, 2004; Unsworth, 1997; Mohan, 1986). This research raises the question of how links are made between language and content in a tertiary carpentry training context.

A recent study of learning disciplinary language in the New Zealand context (Basturkmen & Shackleford, 2015) focused on how content tutors in the first year of a Bachelor of Accounting degree paid attention to language within meaning focused instruction. These researchers “wished to understand specifically how the accounting lecturers might already be helping students with language in their teaching” (p.87). They discovered that lecturers frequently engaged in helping their students with the language during content-based lectures. Costa (2012), this time in an Italian context, investigated the extent to which lecturers in higher education integrate a focus on form during content-based lectures, and discovered that moments during lectures where the lecturer drew attention to the language they were using were quite common. Both of these studies provide examples of what Gibbons describes as “linguistic bridges between learner language and the target register” (Gibbons, 2003, p.267), specifically, the connections that are made between using the language and constructing new knowledge. The present study adds to this growing body of research. However, in contrast to an academic context, we describe a focus on language in trades training where learning is primarily through ‘doing’ rather than learning through instruction. We give attention to a context that has been neglected in the literature, that is, the learning of vocabulary within trades training.

The above research on drawing attention to language as part of content-focused instruction may be distinguished from Second Language Acquisition (SLA) literature, where focus is primarily on language. Of particular relevance to our research are SLA studies that have looked specifically at vocabulary learning. A study by Dobinson (2001) sought to find out if students learn the vocabulary items that teachers teach. She found that focus on the word by the teacher facilitated recall, as did repetition, and the number of conversational turns associated with a new word. However, involvement of the learner him/herself in discussion of the word was not more effective than hearing it discussed by others in the class. Laufer and Rozovski-Roitblat (2011) found that word-focused practice, as might happen in a language classroom, was more effective for learning a word than occasional focus on a form, such as the attention paid to vocabulary by the teacher or learners in a content-based classroom. Like both Dobinson (2001) and Laufer and Rozovski-Roitblat (2011), Plonsky and Loewen (2013), undertaken in a Spanish L2 classroom in which focus was on uptake of grammar and vocabulary, report that a number of factors are associated with uptake of lexis including frequency of exposure and episodes when focus is on language rather than content. In addition, they note that salience of the lexis to the learners themselves cannot be discounted as a factor associated with vocabulary learning. In the context of our study, it is possible that vocabulary may gain salience from its association with their chosen trade.

1. **Language-related episodes**

Basturkmen and Shackleford (2015) used ‘Language-related episodes’ (LREs) as the unit of analysis for their study; they describe these LREs as “instances when teachers and learners talk about language, such as grammar or vocabulary, or a feature of the discourse or phonological systems within communication that is primarily concerned with exchanging messages” (Basturkmen & Shackleford, 2015, p.86). These instances can include “any part of a dialogue where the students talk about the language they are producing, question their language use, or correct themselves or others” (Swain & Lapkin, 1998, p.326), and the focus of communication shifts from content to language. Focus on Form episodes (FFEs) have also been used to identify these shifts from content to language (Costa, 2012; Zhao & Bitchener 2007), which Basturkmen and Shackleford describe as “a type of language-related episode” (2015, p.89). They are “the incidental attention that teachers and L2 learners pay to form in the context of meaning-focused instruction” and “occasions when either the teacher or a student chose to make a specific form the topic of the discourse” (Ellis, Loewen & Basturkmen, 2001, p. 407). Although the focus is on meaning, attention is incidentally paid to form in the lesson, and the tutor “overtly draws students’ attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication,” (Long,1991, p.46). These types of interaction are unplanned and occur incidentally in the context of meaning-focused instruction. The present study draws on this body of research, but particularly on the work by Basturkmen and Shackleford (2015), as we are also exploring a tertiary context with both first and second language learners, focusing on content as opposed to language. We will explore unplanned episodes occurring in tutor talk and tutor-learner interaction in meaning-focused instruction and which involve the tutor or learner overtly drawing attention to the language they are using in the context of the teaching. Our study will address four key questions:

1. To what extent do tutors and learners draw attention to lexical items they are using?
2. What are the features of those interactions?
3. What do tutors say about teaching and learning specialised words?
4. What do learners say about learning the specialised words?
5. **Method**

In this section we discuss the context of our study and the data sources we used.

3.1: Context

The context for the study is carpentry training in New Zealand, involving both tutors and learners, drawing on an analytical framework based on LREs to explore talk about lexical items. In New Zealand, vocational programmes are required to integrate literacy development into the teaching of vocational subjects. A key part of literacy involves being able to understand and use specialised vocabulary in specific contexts. This study focuses on a practical carpentry training programme delivered at a New Zealand polytechnic institution. The programme involves learners building a three bedroomed house over 34 weeks that can be sold commercially to the public. All theory and practical work is planned and delivered around the building of the house as the completed house is the paramount outcome to be achieved. Classes usually consist predominantly of males, in their teens and early twenties, from a range of ethnicities including Maori, Pacific, Asian, Pakeha (ethnically European New Zealanders) with most learners being native speakers of English. However, there are three teaching streams; in addition to a ‘regular’ stream, one stream is delivered by a Maori tutor and one by a Pasifika tutor. The purpose of these is to build culturally specific learning environments for these cultures. Learners in these classes, although identifying with a specific culture, consist of both native and non-native speakers of English. Each class, of approximately 20 learners, is supervised by a single tutor, and each class builds a house. Most learners intend to gain an apprenticeship on completion of this programme in order to train to be qualified builders.

3.2 Data for the study

Three sources of data were collected in this study: recordings of classroom teaching, observations of these teaching sessions, and interviews with tutors and students. Recordings of interactions involved three classes; they included both theory and practical sessions and covered a range of topics which reflected the various stages in the building process (see Table 1 below). A total of 990 minutes were recorded, including 408 minutes of theory classes and 582 minutes of practical classes.

**Table 1**: sessions recorded for each tutor. Key: Th= Theory; P=Practical

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Tutor | Setting out | | Framing | | Insulation | | Cladding | | Linings and trim | |
| Harry |  |  | Th | P | Th | P |  |  | Th | P |
| Luke |  |  | Th |  | Th | P | Th | P |  |  |
| Mark | Th | P |  |  |  |  |  |  | Th | P |
| Beginning end | | | | | | | | | | |

Talk was recorded using lapel microphones as tutors and learners frequently move between the practical worksite and the theory classrooms, so this method enabled tutor talk to be recorded as well as instances of tutor-learner interaction, regardless of change in physical location.

Through the observations of the recorded sessions we sought to become familiar with the teaching context and to gain some insight into the norms of the carpentry classroom. However unlike many other studies in this area (Basturkmen & Shackleford, 2015; Costa, 2012; Zhao et al, 2007), not all recorded sessions were observed, only ten hours overall. Although observation of all classes would have been ideal, the fact that fewer were observed was mitigated by the fact that one of the researchers regularly works with both tutors and learners on this programme, in the context described here. In addition, analysis of corpus recordings without observations has been used previously to identify the extent and nature of incidental focus-on-form episodes (Ellis et al, 2001). These recordings were analysed to address research questions 1 and 2: To what extent do tutors and learners draw attention to lexical items that are using? And What are the features of those interactions?

In addition to recordings of classes, the tutors Harry, Luke, Mark and a fourth tutor, Ben[[1]](#footnote-1), were interviewed, as well as nine learners. Ben was another experienced Carpentry tutor teaching a similar population/level. The function of these semi-structured interviews was to address research questions 3 and 4: What do tutors say about teaching and learning specialised words? And what do learners say about learning the specialised words?

1. **Analytical Framework**

In the literature, a piece of discourse is identified as an LRE if it involves a word or phrase being talked about as an object, rather than being used as a tool to communicate with. These instances are when either the tutor or learner ‘steps out’ of using the form to communicate a message and instead focuses on some linguistic aspect of that word. This focus can include, for example, pronunciation or meaning through strategies such as recasting to correct pronunciation or asking for or giving a definition.

In this study, the process for identifying LREs involved locating stretches of discourse where the focus of the tutor and learner talk shifts to talk about the language being used. As context is key in an analysis of this kind, a large enough stretch of discourse surrounding each LRE was included for us to understand the context fully, although the surrounding discourse itself was not analysed. The context of the talk, in terms of whether it happened in classroom or on site, was also recorded. The episodes that were analysed begin when either the tutor or learner draws attention to the language and end once the focus of the talk shifts back from the language to the content. In Excerpt 1 below from a theory lesson on framing, Luke, one of the carpentry tutors, shifts from using language to communicate with to talking about language as an object: *it’s called a load bearing wall as well* and then returns to using language as a tool to communicate with:

**Excerpt 1**

Luke: ... so if you go to take out a wall in certain areas of your house be very careful that one it doesn’t compromise the structure of your building and two the weight from your roof isn’t ah *it’s called a load bearing wall as well*. So all the bearing of the ah structure is coming down on this wall...

This process was quite complex as often stretches of discourse involved embedded discussion of a number of lexical items or a number of different aspects of a form once initial attention had been drawn to the language item. For example, Excerpt 2 below was classified as one LRE. The tutor draws attention to the form by giving the meaning for *D* and *T*. Even though the interaction continues by focusing on other aspects of the form, for example pronunciation, this focus occurs within the same stretch of discourse that is already focusing on language. It is part of the same LRE.

**Excerpt 2**

T*: so the D is for your doubling stud, the T is for the trimming stud and then you’ve got a jack stud*

*L: What do the Ds stand for Harry?*

*T: Doubling stud*

*L: Dumbling studs*

*T: Doubling, doubling studs*

*L: Doubling, gibbing*

*T: Doubling, trimming and the jack stud. It’s just the new vocabulary, the new vocab you’re going to be using  
L: It’s easier vocab, vocab  
T: Vocab vocab...Just get used to the words, you’ll be right*

4.1 Language Related Episodes: Lexical items

The type of LREs analysed in this study involve lexical items, which refer to a word or phrase that denotes a specific unit of meaning, “including technical terms, collocations and multi-word units” (Basturkmen & Shackleford, 2015, p.91); for example, *Pink Batts*, a type of thermal insulation or *coping saw*, a tool for cutting*.* Abbreviations (e.g. T and D in excerpt 2) are included, as are proper nouns (Pink Batts, for example, a brand name) as they are often used in the trades context to represent lexical items.

The framework for analysis of the LREs draws on four categories, previously identified in the literature. The four categories are summarised in Table 2. The first category, which draws on Ellis et al (2001), distinguishes whether the focus on form was initiated by the tutor or learner, identifying who initiates the focus on form and draws attention to the lexical item (See Table 2, Column 1). In Excerpt 2 above, the LREis initiated by the tutor, who draws attention to the language by giving the meaning for *D* and *T.*

The second category, also drawing on Ellis et al (2001), is whether episodes are pre-emptive or reactive (See Table 2, Column 2). Pre-emptive refers to the tutor or learner “initiating attention to form even though no actual problem in production has arisen” (Ellis et al, 2001, p. 414). Attention is drawn to the lexical item and before any performance problem arises. Excerpt 2 shows the tutor pre-emptively giving the meaning of *D* and *T* before a problem has arisen with anyone actually using it. In contrast, a “reactive focus on form addresses a performance issue” (Ellis et al, 2001, p. 414) and such an episode “arises when learners produce an utterance containing an actual or perceived error, which is then addressed usually by the teacher, but sometimes by another learner” (Ellis et al, 2001, p. 413)*.* It is a reaction to an error, actual or perceived, in language use. Embedded in Excerpt 2, the tutor recasts the learner’s utterance of *dumbling studs* with the correct pronunciation of *doubling studs*, reacting to the learner’s mispronunciation of the specialised term.

The third category of analysis identifies the four ways tutors and learners appear to draw attention to the language. The first way, ‘Explicit information’, “involves the provision of explicit information about the problematic linguistic form that is perceived to be a problem” (Zhao & Bitchener, 2007, p. 437). In excerpt 2, line 1, the tutor gives explicit information to the learners by telling them what the abbreviations mean. The second way attention is drawn to language is through tutors using “elicitation to draw attention to technical terms” (Basturkmen & Shackleford, 2015, p. 93). In our study, we included in this category learners asking questions about language use, as well as the tutors. The third way attention was drawn to language was through ‘recasts or reformulation’, where an actual or perceived error is addressed through repetition with correction. In Excerpt 2, the tutor recasts the learner’s pronunciation of *doubling*. Also included in this category are when the lecturer “introduces a technical term” following a less formal term (Basturkmen & Shackleford, 2015, p. 93), or when the tutor or learner recast each other’s utterances transitioning between specialised and general terms. The final part of this category is illustrated in Excerpt 2, when attention is drawn to the specialised term *jack stud*...*the new vocab you are going to be using*, identifying the form as an object with no additional information about that item being given or sought.

The fourth and final category of analysis, which draws on Nation (2001), involves describing what information about the word is focused on when attention is initially drawn to that word: meaning, pronunciation or whether no information is given (See Table 2, Column 4). Excerpt 2 illustrates all three of these, with initial attention being drawn to the language through the tutor giving explicit meaning of the abbreviations. Then, embedded within this same excerpt is attention being drawn to pronunciation and then *jack stud* being mentioned as *vocabulary* with no additional information being sought or given about this term.

The process of analysis involved both authors independently coding the data using the categorisations in Table 2. We coded a sample and then discussed any differences until we agreed on the categorisation. All items were coded by both raters and any differences were discussed until the categorisation could be agreed upon.

**Table 2** Analytical framework: Coding and Features

|  |  |  |  |
| --- | --- | --- | --- |
| Who initiates the LRE? | Is it pre-emptive or reactive? | What does the tutor or learner do to draw attention to the language? | What information about that word is involved? |
| **Tutor initiated**  Tutor draws attention to language. | **Pre-emptive**  Before a real or perceived performance problem arises. | **Explicit information**  Tutor draws attention by giving explicit information. | **Meaning**  *There is an attempt by either speaker to focus on the meaning of the item (Nation, 2001):*  *Meaning is given for form:*  *T: ceiling diaphragms which is basically bracing in the ceiling*  *The form is given to express a meaning:*  *T: That is what we call a change of station*  *What is included in the concept:*  *T:So this is called the groove because you know the gib board slots into the groove we’re not doing that but that’s what that means*  *The items the concept can refer to:*  *T: Types of insulationPink Batts, polystyrene, foil*  *Associated words that can replace the form:*  *T: And flashing tapes is all part of the W… WP… is all part of the WPPS. it’s a water penetration protective system* |
| **Elicitation or questions**  Tutor or learner elicits information or asks questions. |
| **Learner initiated**  Learner draws attention to language. | **Reactive**  After a real or perceived performance problem arises. |
| **Recasts or reformulation**  The utterance is repeated with a correction. |
| **Draws attention:**  Language is identified as a specialised term. |
| **Pronunciation**  *How the word is pronounced*(Nation, 2001). e.g.:  *L: Dumbling studs*  *T: Doubling, doubling studs*  *L: Doubling****,*** *gibbing* |
| **No additional information given (NIG)**  *T: ...the jack stud. It’s just the new vocabulary, the new vocab you’re going to be using* |

1. **Results:**

This section will address the four key questions in this study. We begin by exploring the first question:

*5.1 To what extent do tutors and learners draw attention to the lexical items they are using?*

As Table 3 below shows, attention is drawn to the vocabulary being used a total of 123 times overall across 16.5 hours of recordings. Eighty four of these instances occurred in the theory classrooms, where the focus was on teaching the theory and the remaining 39 occurrences were on the building site, where the focus was on completing the practical work. Overall, in Classes A and C there were 44 and 45 episodes respectively, an average of seven per hour, and in Class B there was a total of 34 episodes, approximately nine per hour. In the theory sessions, frequency of occurrence ranged from 15 every hour for Class A, 14 per hour for class B, and 9 every hour for Class C. In all three classes there was a decrease in frequency of episodes in the practical sessions to between two and six per hour. This pattern was reflected in frequency of LREs per number of transcribed words, with 1.7 LREs per 1000 words in the theory sessions, but only 0.7 LREs per 1000 words on the building site.

**Table 3:** Number and frequency of LREs

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Tutor | **Class A** Harry | | **Class B** Luke | | **Class C** Mark | | **Total** | |
|  | **Theory** | **Pract** | **Theory** | **Pract** | **Theory** | **Pract** | **Theory** | **Pract** |
| **Total Minutes** | 125 | 241 | 133 | 107 | 150 | 234 | 408 | 582 |
| **Total LREs** | 31 | 13 | 30 | 4 | 23 | 22 | 84 | 39 |
| **Approximate frequency**  **per hour** | 15 | 3 | 14 | 2 | 9 | 6 | 12 | 4 |
| **Total words** | 8,951 | 17,141 | 21,339 | 10,529 | 18,982 | 25,588 | 49,272 | 53,258 |
| **Frequency/ 1000 words** | 3.5 | 0.8 | 1.4 | 0.4 | 1.2 | 0.9 | 1.7 | 0.7 |

* 1. *What are the features of the interaction?*

Table 4 shows two key features of the interactions, who initiates each episode and whether they are pre-emptive or reactive. It was predominantly the tutors who drew attention to the language in tutor talk and tutor-learner interaction, doing so 79% of the time and initiating 97 of the 123 episodes. Of the tutor initiated episodes, 87 were pre-emptive and 10 were reactive and of the learner initiated episodes, 20 were pre-emptive and 6 were reactive. This greater frequency of tutor initiated episodes aligns with Basturkmen and Shackleford’s (2015) findings where tutor-initiated episodes were more frequent than learner-initiated episodes and pre-emptive episodes were more frequent than reactive. It is however distinct from Plonsky and Loewen’s (2013) findings. Although, like our study and that of Basturkmen and Shackleford (2015), they found little reactive focus on vocabulary by teachers, they found as much learner-initiated as teacher-initiated focus on lexis. This difference may relate to the meaning-focus of our classrooms, rather than language-focus.

**Table 4**

Frequency of tutor or learner-initiated and pre-emptive or reactive episodes.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Class A (Harry)** | **Class B (Luke)** | **Class C (Mark)** | **Total** |
| **Tutor initiated**  **Pre-emptive** | 25 | 29 | 33 | 87 |
| **Tutor initiated**  **Reactive** | 3 | 3 | 4 | 10 |
| **Learner initiated**  **Pre-emptive** | 12 | 1 | 7 | 20 |
| **Learner-initiated**  **Reactive** | 4 | 1 | 1 | 6 |

Excerpts 1 and 2 discussed previously both showed tutor initiated pre-emptive episodes as in both cases the tutor was drawing attention to language before a real or perceived performance problem had arisen. Excerpt 3 (below) is a ‘reactive’ episode, as Luke the tutor is responding to the learner’s use of the word *frame,* a ‘performance’ issue (Ellis et al 2001). The tutor reacts to the language use by focusing on the form and eliciting the correct term *lintel* because *it’s got a certain name.* He then goes on to discuss another term, *timber beams*, before returning to the meaning focused talk.

**Excerpt 3**

T: ... What’s above here?

L: *frame*

T: *it’s a frame but it’s got a certain name*

L: *lintel*

T: *lintel but you know at this stage we call them lintels ok and your might be called a beam just a timber beam* ok well that timber beam depending on the size and weight allocated for that area...

The next two excerpts illustrate learner-initiated episodes, both from Mark’s lessons, the first being pre-emptive with the learner asking what to call the different stages in a practical ‘setting-out’ lesson and the second showing a reactive episode in a theory ‘linings and trim’ lesson.

**Excerpt 4**

L: If you only do two points, foresight and *is the other one called an intermediate or*?

T: If you do, you always start with a backsight then if you do two points *they are called intermediate and if it’s your last point you call it your foresight ‘cause that tells you it’s finished.*

L: *Ok, it’s finished.*

T: *Yeah, yeah. Ok at least you’re getting the terminology.*

This excerpt is interesting as after the learner draws attention to the form by asking what *the other one* is called, embedded in the LRE is the tutor referring to the learner *getting the terminology,* drawing attention to these words as objects to be learned.

Excerpt 5 has been classified as reactive as it appears that the learner is reacting to the tutor’s utterance *BLs* by responding with the full term of *brace line* to clarify what the term *BLs* means:

**Excerpt 5**

T: That’s just for the bracing sheets and that’s to do with GS 1 and GS 2, *BLs* and all them

L: You mean like *brace line*?

T: yea, and a standard and all them, the house that you guys are building...

This section explores the different ways tutors and learners draw attention to the LRE.Table 5 shows that attention was drawn to language in four key ways: giving information, asking a question or eliciting information, recasting and finally, just drawing attention.

**Table 5**

Frequency of ways attention is drawn to the language.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Gives explicit information** | **Asks a question or elicits** | **Recast** | **Draws attention** | **Total** |
| **Tutor** | 63 | 9 | 20 | 5 | 97 |
| **Learner** | 4 | 16 | 6 | 0 | 26 |
| **Total** | 67 | 25 | 26 | 5 | 123 |

Excerpts 1 and 2 demonstrated the first key way in which tutors explicitly gave information about language items. Excerpt 5 below illustrates the learner giving explicit information about the language item, *Greenstuf* (a trade name):

**Excerpt 5**

T: ... whoever is doing the design is drawing the house will tell you what insulation they’re going to use so you gotta check the plans

L: *Greenstuf*

T: yeah

L: *Greenstuf* is what it’s actually called

T: *Greenstuf* it is called as well

L: *Greenstuf*

L: that’s what it’s actually called bro *GreenStuf*

T: *Greenstuf* insulation

This reference to GreenStuf is explicit because the interlocutors are using language like *it’s actually called...that’s what it’s actually called bro* to draw attention to the form. Excerpts 3, 4 and 5, discussed previously, showed tutor and learners eliciting information about the language items, the second way attention appeared to be drawn to language.

A third way tutors and learners appeared to be drawing attention to the language was by ‘recasting’ or repeating an utterance, often a single word, but with a correction. In Excerpt 6 below, a learner appears to recast a tutor’s utterance not by explicitly drawing attention to the item but by simply recasting *white plastic thingymajig* as *diverter:*

**Excerpt 6**

T: you need to go get me a see that *white plastic thingymajig*?

L: *diverter*?

T: *yeah ah it’s an internal flashing, it’s a white flashing*, bring that out or ah put it up...

This recasting by the student appears to illustrate ‘learning through practice’ as it is because the learner has been directed to get the *white plastic thingymajig* that he draws attention to the lexical item, and recasts it as *diverter*, to check what he is looking for. Excerpt 7 below is similar but this time the tutor responds to a learner’s questions by focusing on the terminology they use and recasting this:

**Excerpt 7**

L: oh well I thought we moved isn’t it ... take it again, is that square?

T: *plumb*

L: *move*

T: *is that plumb?*

L: *Plumb and square*

T: *move your thumb just plumb Mike just plumb no square there*

The tutor recasts the learner’s utterance *square* with *plumb* and does so twice. However, because the learner continues to use the term *square*, the tutor then explicitly points out that it is *just plumb* because there is *no square there*.

The final excerpt below shows the fourth way that attention appeared to be drawn to language. This does not seem to have been described previously in the literature and occurs when the tutor draws attention to the language as an object but no information is given or sought about that item:

**Excerpt 8**

T: *ok so it says here you will need to know the meaning of the following terms: beams, blocking, plates, double studs, doubling studs ah, dwangs, nogs, jack studs, lintels, posts, sills so on and so forth* ... It’s a lot easier if we go and just do it and we’ll sorta fiddle our way through it as opposed to boring you for the next three hours bout stuff that you don’t know.

In Excerpt 8, although the learners do have a written text in front of them, the tutor talks about *doing it* on the building site, using the words, which is *easier* than *boring them* in a theory class, reflecting the learning through doing approach (Roberts et al, 2005, p.8).

The final feature of the LREs that was explored was the aspect of ‘knowing a word’ that the episodes drew attention to. There are many aspects involved in ‘knowing a word’ (Nation, 2001) and in the recordings that were analysed, there were a range of ways that tutors linked form to meaning, as illustrated previously in Table 2. The tutors are working in a meaning-focused teaching context, so in many of the LREs tutors were giving definitions, examples, associated words and in many instances describing the function of these items in terms of the carpentry industry:

*So this is called the groove because you know the gib board slots into the groove we’re not doing that but that’s what that means...*

The function of the groove is to create a gap for the gib to move into.

Although the predominant focus of ‘knowing a word’ appeared to be linking meaning to form (113 out of 123 occurrences), there were two instances where attention was drawn to language by focusing on how to pronounce the word. Excerpt 9 below shows a tutor explicitly drawing attention to pronunciation of a word that is in the text they are reading:

**Excerpt 9**

*T: ...* that’s the A S conduction *I don’t know who can pronounce that word*

*L: contiguous*

*T: contiguous yeah convection...*

The tutor asks who can pronounce *that word* and responds with affirmation that the pronunciation by the learner is correct.

The third and final category for what aspect of ‘knowing a word’ interlocutors focused on was illustrated in Excerpt 8, where attention was drawn to the item on eight occasions, but no additional information was sought or given such as meaning or pronunciation, the other two categories that were present in this data set.

The second part of this study explored some of the norms and beliefs of learning specialised words in this context through the third and fourth key questions.

*5.3 What do the tutors say about teaching and learning specialised words?*

Semi-structured interviews (See Appendix A) were carried out with the three tutors mentioned above, Harry, Luke and Mark, as well as with another tutor, Ben, and these were recorded and analysed. The two questions that this part explores are what tutors say about how they teach the specialised terms. Responses from the tutors are discussed below.

5.3.1 How do you teach these words?

As focus on the word by the tutor was one of the key factors associated with learning a word reported by Dobinson (2001), the purpose of this question was to try and identify strategies that tutors employ in this focus to help learners learn new words. Tutors responded by outlining a range of strategies:

Mark: *We just use it, always use, demonstrate, show; write words on the board for spelling; meanings of the words; teach them building slang used with other builders...put it in context...most important is what it is used for; collocations: boundary joist, boundary line.*

Luke: *Break it down - use different synonyms, words mean the same, use more commonly then more technical...on the board, 90% write what it is on the board, meaning, example, image...something they see all day every day copy Luke’s pronunciation check spelling and pronunciation on line put words in sentences and phrases I want them to use it in a sentences in the right context with the right meaning collocations building envelope – building wrapped in paper...letter envelope.*

Ben: *use it bit of a game...deliberately use them and put them in so they listen out for them*

By these accounts, strategies included repetition, giving explicit meaning, writing the word, using synonyms and collocations, scaffolding from everyday to more complex words, putting items in context, focusing on pronunciation and, as Harry added, *repeat, repeat what you do*. What seems to be emphasised is the focus on *using* the words: *using* the words to demonstrate and show, *using* synonyms, *using* more common and then technical words and making a game of it so that learners listen out for them. In fact, Mark both begins and ends his response by emphasising the importance of the tutor always using the word and stressing what it is used for. This illustrates how fluency of language use is attained by “enculturation (“apprenticeship”) into social practices through scaffolded and supported interaction with people who have already mastered the Discourse” (Gee, 1990, p.147); in this case, the tutors have already mastered the ‘Discourse’, walking and talking like carpenters, and here they are scaffolding the language learning of the learners through interaction.

5.3.2 What do you think are the most effective ways for teaching your learners new words?

In answer to this question, the tutors described a range of strategies such as writing, discussion and drawing, with Luke and Ben emphasising the idea of use:

Luke: *Use it, use it from the get go explain what they will do and make when they pose a question elicit the correct term...when they start using these words we can have conversations like builders...*

Ben: *Best way to teach learners is use them..seeing...hearing...experiencing... don’t answer learners until they use the correct words. What are you talking about what does it do? What is it for? What is it called? You mean a purlin?*

These quotes reflect what Lave and Wenger (1998, p.10) describe as “engaging learners in meaningful practices, of providing resources that enhance their participation”. The resource in question is language through tutor talk and the meaningful practice is scaffolding use of that language whilst engaged in practical activity on the building site, again reflecting the ‘learning through doing’ approach. Harry explained the need for this scaffolding using the example of referring to learners working on ‘quirks’ on the building site: *On the architraves you have to leave a quirk either side of the edge...that 3mm line all the way around there is called quirk*; he explained that if learners don’t understand the terms, they won’t be able to do the practical work. These quotes also illustrate that tutors appear to be using an approach where language is explicitly taught but integrated within the vocational training (Casey et al, 2006), helping learners see how learning the language is part of learning the trade.

*5.4 What do the learners say about learning specialised words?*

The responses from the nine learners who were interviewed using semi-structured interviews (See Appendix A) are discussed below. They explore the two areas of what learners do when they meet a new word, and what they say about learning the new word:

5.4.1 What do you do when you hear a new word?

The purpose of this question was to try and find out what learners do when they hear new words in tutor talk and learner conversation. Seven of the learners mentioned asking someone to explain, either their tutor or *the boys*, the other learners. An example is:

* 1. *I told him to elaborate on it, fascia board, soffit (hard ones) asked him to explain...always asked in class, always asked questions.*
  2. *Ask Luke, Luke would explain the word before we started using it.*
  3. *Try and memorise it...ask Luke...ask some of the boys…*

Two of the learners also mentioned repetition and memorisation and a third learner said *keep repeating it in my head.* As mentioned above, repetition is a factor mentioned in the SLA literature (Dobinson, 2001; Plonsky and Loewen, 2013; Laufer & Rozovski-Roitblat, 2011) as positively associated with vocabulary learning. One of the learners also added *write it in my diary* (a journal learners write describing their practical work). Based on these responses, it appears that learners do a range of things when they hear a new word, repetition, memorisation, writing and seeing it in action, but predominantly, asking the tutor or a peer seems the most common strategy used, again, reflecting a social view of learning (Vygotsky, 1978), where the learners appear to be ‘learning from a more experienced other’.

Two of the learners also talked about understanding the word once they see it used practically, for example:

*Normally I don’t understand it* [when the tutor says it] *but it comes to once we go on site he puts what he just said into use putting on the wanz bar...seeing it in action, a picture on the board is nothing to seeing it on the house*

This suggests that the context in which the word is encountered is also important, in addition to strategies that learners use for learning new words. This reinforces the value of the ‘learn as we go’ approach in the apprenticeship context.

5.4.2 What do you do when you see a new word in an assessment or workbook?

When learners were asked this question, six referred again to asking their tutor, for example: *We ask Luke he will give us the meaning and then we underline it and write the meaning next to it*. Four learners mentioned using the glossaries because as one learner said, *they help out a lot* and two learners referred to saying the word out loud: *I sound it out* and *see if I know how to say it*. Four of the learners talked about just reading the text and working out the word because *technical words, they will explain it in the text.* Again, learners report using a number of strategies when they meet a new word in its written form, but the predominant strategy seems to be asking the tutor, the more experienced ‘other’.

5.4.3 How do you learn that word *and* what helps you learn new words?

The purpose of these questions was to try and find out how learners ‘*learn as we go’* once they have met the new words*.* Learners again reported using a range of ways. Three of the learners talked about learning the words *on site*, with one of the learners saying:

*Working with them and use the word more...once we started working on the soffit we became more familiar with what it is when we are working with it and referring to it all of the time...working with it and doing the jobs around the word.*

The learner describes the language as being in the centre of the work, and working ‘around the word’. Six of the learners mentioned tutor explanations and the following extract from one learner illustrates what these explanations can involve: *Mark goes over them or explains us...explains which one goes where...most of the time he explains them verbally which is quite straightforward when it comes from Mark...he makes it simple to understand*. Three of the learners mentioned repetition when the tutor uses the words again and again, for example: *When Harry says it over and over you begin to pick it up* reinforcing the view that repetition contributes positively to vocabulary acquisition (Dobinson, 2001; Plonsky & Loewen, 2013; Laufer & Rozovski-Roitblat, 2011). A learner also said he learns the words by *just listening.* One of the learners mentioned using pictures, three of the learners talked about writing the words down and one of the learners said *Mark tells us to look up the word in the book.* Although learners appear to be using a range of strategies to learn the new word again, oral interaction with the tutor seems to dominate the *learn as we go* approach. This approach aligns with the view of literacy practices as what people do with literacy (Barton, Hamilton & Ivanič, 2000), learning the language of carpentry within a specific domain (Street, 2001) and learning through practice within the context of carpentry.

5.4.4 Do you use glossaries?

Eight of the nine learners said that they used the glossaries and found them useful for learning new words and the extracts below illustrate the kind of responses learners gave:

* 1. *I love the glossaries I use them a lot to learn them.*
  2. *I use glossaries like when I don’t understand a word or yea when I don’t understand anything mostly like when we are doing our internals* [assessments] *If I am reading a book and I don’t understand a word, I go to the glossary or just ask Mark.*

It appears that learners find the glossaries useful, however Learner B mentions asking the tutor so even when the question is about glossaries, talk with the tutor is still a factor.

Overall, the most frequent comment related to learning new words appears to involve talk with tutors. In addition, learners mentioned learning through doing, repetition, pictures, writing, listening and looking the words up with the glossaries. The two quotes below, each from a different class, seem to summarise the approach to *learn as we go:*

* 1. *Pick it up as you go...it wasn’t until I performed the task that I learnt the word...I think the practical is the way to learn the word*
  2. *Having them explained ...using them practically while we are working...remembering what the word is and the process around it while you are working with the new thing...just having it explained well and doing it and working with it.*

As the extracts from both the tutor and learner interviews demonstrate, there is a range of ways to learn the new words, but the predominant strategy seems to be through practice within the Discourse, both in terms of using the language and doing the practical work, or *doing the jobs around the word,* emphasising how language is part of practice and it is through this practice that the learners learn (Wenger, 1998; Lave & Wenger, 1991).

1. **Discussion**

This study has described ways that tutors and learners talk about the language they are using, and strategies they report using to teach and learn the vocabulary of carpentry and draw attention to form. A range of research has explored drawing attention to form in second language classrooms (Long, 1991; Swain & Lapkin, 1998; Ellis, 2001; Ellis, Basturkmen & Loewen, 2001; Zhao & Bitchener, 2007; Dobinson, 2001; Plonsky & Loewen, 2013; Laufer & Rozovski-Roitblat, 2011) and content focused classrooms (Basturkmen & Shackleford, 2015; Costa, 2012). In contrast to these studies, the present study was in a context where the tutors and learners could rely on the practical, on-site environment, a very different environment for learning vocabulary with very different learners than, for example, the university tutorials that Basturkmen and Shackleford describe or the lectures that Costa describes. However, like Basturkmen and Shackleford (2015, p.94), we also found that language was a “topic worth discussing”, and like Costa (2012), that moments where attention was drawn to language were quite common, in our context on average eight times per hour.

This study focused on LREs involving lexical items and found 123 episodes overall across approximately 16.5 hours of recordings, with tutors initiating attention to form on 97 of these occasions, and learners initiating the remaining 26, showing that tutors drew attention to the language far more frequently than the learners. This finding mirrors the findings of Basturkmen and Shackleford (2015) who found that 144 episodes were initiated by the lecturer and only 19 by the learners. The findings suggest that carpentry tutors do focus on helping their learners learn the language of the trade as well as helping them learn the practicalities of doing the job.

Evidence was found to suggest that tutors are aware of issues learners may have with using and understanding the language of carpentry; before any ‘performance’ issues arise, tutors pre-emptively drew attention to the words they were using 87 out of the 97 times. Learners showed a similar awareness, pre-emptively drawing attention on 20 of the 26 occasions, reflecting Basturkmen and Shackleford’s (2015) findings that attention is drawn to language more frequently pre-emptively than reactively. This indicates that both tutors and learners are aware of possible problems with language use before those issues arise.

The predominant way tutors drew attention to the language was by giving explicit information, doing so 63 out of the 97 times, as opposed to eliciting information from the learners, which they did on 9 occasions. This suggests that tutors realise that this discourse is new to many of their learners and so pre-emptively give the learners explicit information about the language as they teach the content of the subject area. This reflects Costa’s finding (2012) that all lecturers in her study pre-emptively paid some attention to form, despite being subject matter as opposed to language experts. Conversely, learners used questioning to gain information about the lexical items on the majority of learner-initiated occasions, 16 out of 26, which is to be expected as in the interviews, the majority of learners reported asking their tutor about new words they met in written and spoken text. An interesting category that does not seem to have been included before in the literature is drawing attention to the language without any further information being sought or given. The language is being talked about as an object but nothing about ‘knowing a word’ is discussed. A tutor says at one point *I don’t want to be bogged down by the blah blahblah.* Tutors appear to avoid spending too much time on the lexical items in theory sessions because *It’s a lot easier if we go and just do it and we’ll sorta fiddle our way through it as opposed to boring you..*. Tutors are conscious of drawing learners’ attention to the language, but learning the words is easier by ‘doing’, a key finding supported in vocational education research (Roberts et al. (2005); Casey et al. (2006)). This approach to language learning echoes Chan’s findings of how apprentices develop a trade identity, they “learn the various ways of doing” (2013, p.9). This finding is particularly important as learners identified doing practical work as key to understanding and using new words *doing the jobs around the word*, reflecting Lave and Wenger’s assertion that “Language is part of practice, and it is in practice that people learn” (1991, p.85), the practice of the trade of carpentry.

The predominant aspect of knowing a word that talk focused on related to its meaning, in 113 out of 123 occurrences. This is probably not surprising as for many of the learners this is a new subject, and the first year of carpentry training. Basturkmen and Shackleford (2015) also found that attention to specialised terms indicates that tutors and learners recognise the link between the specialised words and the learning of the specialised discipline. Learners and tutors are aware of the need to master the language to be able to mediate meaning in this context. What is also interesting is that, while the present study only focused on instances that involve attention to lexical items, Basturkmen and Shackleford’s study (2015), with a broader focus than vocabulary, found a high proportion of the episodes they identified, 46%, were vocabulary-related. This suggests the centrality of vocabulary learning in the content-based classroom, and the centrality of learning language at any level (Hirsh & Coxhead, 2009).

Discussions with tutors also highlighted that they consciously draw attention to the language they are using, making the linguistic bridges that Gibbons (2003) refers to, and using their tutor-talk and tutor-learner interaction as a vehicle for embedding literacy development. This approach illustrates how language learning is essentially a social endeavour, where meanings are co-constructed and “shaped by the social activity in which they arise” (Gibbons, 2003, p. 268). Tutors often explicitly draw attention to the words but in ways advocated in the literature, where the learners will see language clearly integrated with their vocational aims (Casey et al, 2006), combining the teaching of the language with teaching of the vocational skills (Roberts et al, 2005) within the interaction during the practical activity itself.

A tutor’s comment regarding *having conversations like builders* was echoed throughout the carpentry context with a keen awareness from both learners and tutors of being able to talk like a ‘carpenter’, indicating how language use is seen as central to being an authentic member of a discourse community. This awareness reflects the process of being initiated into a community through participation (Lave & Wenger, 1991) as a person takes on this new ‘identity kit’ (Gee, 1990) way of being and communicating in this context.

The findings here show that much of the way attention is drawn to the specialised words, in tutor-talk and tutor-learner interaction, occurs primarily in the practical environment, and both tutors and learners commented on this. This finding contrasts greatly with previous studies which were carried out in an academic and theory-based environment. This study shows that in this environment, with these learners, the practical element is seen as key to learning the new words. This has major implications for the embedding of language development in classroom practice, as any approaches used to support such development will need to consider the practical context that both tutors and learners are operating in.

1. **Conclusion**

This article describes ways attention is drawn to the specialised words in carpentry training and what tutors and learners say about teaching and learning these terms in a carpentry training context. The context is a practical trades training environment, with trades specialists, who though they may have completed basic teaching training, have not been trained as language and literacy specialists. However, these tutors appear to be integrating language and literacy into carpentry training, and both tutors and learners appear to be drawing on a range of ways to support the learning of specialised terms, primarily through tutor and learner talk around the practical work. In New Zealand, programmes at this level need to be visibly integrating language and literacy within vocational training (Tertiary Education Commission, 2015). This study shows that such integration of language and literacy and vocational training appears to be taking place.

This study has described an area previously unreported in the literature, the features of embedding vocabulary development in a primarily practical environment within an apprenticeship approach. We felt it was important to first identify whether such embedding does take place and the features of this process, before exploring how effective the teaching methodologies and learning strategies of such an approach may be for both native and non-native speakers. A limitation of this approach is that we did not explore evidence of uptake of the specialised words. Evidence of uptake could be found in the diaries written by the learners; these describe in detail the process of building the house. Further research could also explore how successful the teaching and learning strategies outlined here are for both native and non-native speakers of language. In addition, research could look at how well tutor training around embedding language and literacy takes into account the practical nature of many vocational training environments and how, in this context at least, learning the language goes hand-in-hand with learning the practical trade.

Although the findings here do offer some insights into learning vocabulary and embedding literacy, this may not necessarily translate into other contexts. This piece of work found support for the idea that literacy is co-constructed, based on socially-situated practice, and these practices in terms of language development and embedding literacy could differ in other vocational and trades contexts. Also, even within the carpentry context the data used here was from four very experienced tutors, 16.5 hours of recording in total and from one programme. Observations of programmes at other levels could highlight different practices, as could observations of less experienced tutors, experienced in the trade but new to the world of adult education. Interviews with other tutors and learners could also shed more light on these practices. Also, comparing the quantity and type of LREs at the start of the programme to the end of the programme could highlight different strategies tutors and learners use as the technical language is learned.

However, the teaching and learning strategies described here, where learning the specialised terms appears to occur primarily through tutor and learner talk around the building process, have some key implications for supporting learners and tutors in this context. Apart from some provision of external learning support, tutors provide the same help for all learners in the terms of the teaching methodology described here. Considering the range of learners on this programme, this study provides the opportunity to further develop the teaching methodology described in this article, building on the strategies tutors currently use to help their learners learn the specialised words using an approach that Costa (2012) advocates. This approach begins by identifying what content specialists are already doing in terms of paying attention to language and building on that. Thus this study, and the methodology used here, could be drawn on to help tutors “grapple with developing understandings of how embedded language and literacy may be conceptualised and enacted in their particular disciplines,” a challenge Bak and O’Maley (2015, p. 68) argue many vocational tutors appear to be facing in their specialised disciplines. In addition, the learning strategies that many of the learners describe here could be further developed, especially in terms of supporting learners to be able to engage in tutor-learner talk and learner-learner talk to develop their acquisition of the specialised words and meet the learning demands of this environment.

This study was set in the context of carpentry training in a tertiary institute in New Zealand and reports findings of how the embedding of literacy, through a focus on vocabulary, occurs within an apprenticeship approach. This appears to have been previously unreported in the literature. A key challenge for tutors working in the vocational area is incorporating language and literacy development into the teaching of their trade. This study shows that tutors use a number of ways to draw attention to the language they are using, and this is particularly relevant in terms of what the tutors and learners report regarding learning through listening, doing, tutor-talk and tutor-learner interaction. Such a study as this could be useful for tutors as it highlights what many of them are already doing to address this issue and offers a way to build on this. Findings from this study are currently being used to develop resources to support the teaching and learning of specialised words in this context.

**Appendix A: Semi-structured interview questions**

Questions to guide the interview (Tutors):

1. How do you decide which words to teach?
2. What strategies do you use – how do you teach them?
3. What do you think are the most effective ways for teaching your learners new words?
4. What kind of words do learners know when they come to the programme – give examples
5. Where do you teach them the words – in the classroom, on the site or both?

Questions to guide the interview (Learners):

1. What carpentry words did you know before you started this course?
2. What is different between the words you used when you started the words you use now?
3. What do you do when you hear a new word?
4. What do you do when you see a new word in an assessment or workbook?
5. How do you learn that word?
6. Do you use glossaries?
   1. Why/why not? b. When?
7. What helps you learn and use carpentry words?

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1. All names used in this article are pseudonyms. [↑](#footnote-ref-1)