Direct and Indirect Technical Vocabulary Teaching Strategies used by Subject Teachers in a Saudi Industrial College

Abdullah Alghamdi
Mecca College of Technology

ABSTRACT: *This paper Investigates the beliefs and practices of the subject area teachers about using direct and/or indirect teaching of English Technical Vocabulary (ETV) items in a Saudi Arabian Industrial college called Yanbu Industrial College (YIC). It also aims to explore the specific vocabulary teaching strategies VTS they use to achieve their teaching goals Methodologically, a qualitative study under the case study tradition was conducted. Six Content Area Teachers (CATs) were interviewed to understand their beliefs regarding the directness and/or indirectness of ETV items instruction and to list the strategies they employ towards this endeavor. The study found that CATs stated that they directly and frequently use the following strategies: definitions, exemplifications and pictures. These three strategies, according to all the CATs interviewed, are used jointly most of the time to present the meaning of novel ETV items directly. Secondly, the data also shows that CATs use most of the strategies to teach directly. Thirdly, some strategies were also reported to be used jointly. The study suggested some educational implications and recommended experts in the area to carry out future scrutiny to understand this topic from different dimensions.*

KEYWORDS: CATs, ETV items, beliefs, English for specific purpose, DVT, IVT.

INTRODUCTION

Strategies of Teaching English Technical Vocabulary

'Vocabulary teaching' normally involves a discussion of the relationship between one or more of the following aspects: teacher, student, teaching, test, syllabus and textbooks (O'Malley, Chamot, Stewener-Manzanares, Kupper and Russo, 1985: 22). However, in this study, vocabulary teaching stands mainly for the stages of presenting new ETV items and practising learnt ones. Issues of selection, assessing and rating will appear only when needed.

Teaching English Technical Vocabulary (ETV) items is in many ways similar to teaching general English vocabulary (e.g. Kennedy and Bolitho, 1984). Nation (personal communication) argues that the main difference when teaching ETVitems is that it needs to be done in the subject area lessons. Beyond that, he thinks it should largely be the same as other vocabulary teaching and learning. Therefore, many of the Vocabulary Teaching Strategies VTS used in general English Language Teaching (ELT) apply to ETV items.

'Strategy', 'technique' and 'skill' are sometimes used interchangeably in the literature. Abdel Latif (2006: 18) reports that, in general, strategy is defined as "operations, techniques, steps, processes, behaviours, or thoughts used... to guide, facilitate and solve problems in both language learning and language use". The same can be utilised by the teacher to solve problems in language teaching (in this study, vocabulary form and meaning teaching) and language use (in this study, vocabulary use); therefore, I refer to such strategies as VTS. The present study will also use the words 'strategies' and 'techniques', sometimes interchangeably.

Direct vs. Indirect Vocabulary Instruction

The issue of whether vocabulary should be directly or indirectly taught by teachers is another important issue when addressing the topic of vocabulary. 'Direct vocabulary teaching', 'rich instruction' or 'rich scripting' (McWilliam, 1998) is not sufficiently defined in the literature. Beck *et al*. (2002) argue that direct vocabulary instruction should go beyond definitional information with the purpose of actively involving students with the word's meaning. I also argue that Direct Vocabulary Teaching DVT is the teaching that normally leads students to learn words.

Furthermore, there have been a large number of articles on how to teach vocabulary directly (Nation, 2001; Baumann and Kameénui, 2004; Scott and Nagy, 2004; Hiebert and Kamil, 2005). Mezynski (1983) and Stahl and Fairbank (1986), for instance, reviewed DVT and concluded that in order for it to be effective it first needs to offer the multiple exposure of the words being taught; this is usually achieved by using recycling and repetition strategies. Secondly, it should involve a breadth of information, which usually occurs when definitions are used jointly with other VTS, such as text guessing (when the teacher forces the students to guess as a task), exemplifications and the like. Finally, it should also involve depth; depth of DVT occurs when the student thinks about, and interacts with, the word. Having both depth and breadth present in the rich instruction of vocabulary will usually "establish networks of connections from the new words being learned to words, experiences, and ideas they already have" (McKeown and Beck, 2004: 16).

Indirect Vocabulary Teaching IVT, on the other hand, is the teaching or training of students on how and when to use certain strategies, so that they can use them independently in learning and increasing their lexical repertoire. IVT has been given different labels across various vocabulary studies, such as 'strategy instruction', 'learner-to-learn training' and 'learner training' (Kouraogo, 1993; Fujiware, 1990). Like intentional and incidental vocabulary teaching, direct and indirect

vocabulary instruction will be used to describe how certain ETV items are taught by subject teachers.

Grouping Vocabulary Teaching Strategies

There has been wide literature about the types of vocabulary teaching strategies. Most of the strategies are the result of advice for experienced teachers in the field of vocabulary instruction. For the sake of simplicity and clarity, I have developed a classification for the different types of vocabulary teaching techniques. Strategies in general can be divided into direct and indirect ones. DVT strategies has can be used either for form presentation or practice. IVT strategies, in turn, can be used for discovery or consolidation. Table 3.1 provides a classification for the groups of individual vocabulary teaching strategies which is expected to be used by the subject teachers at the context of this study.

Table 3.1: Groups of Individual Vocabulary Teaching Strategies (VTS)

Groups of VTS	Individual VTS that belong to the group
DVT strategies for meaning presentation	Translation, definitions, exemplifications or attention to register, pictures, photos, posters and other illustrations, real objects (realia), scales and body actions
DVT strategies for form presentation	Word parts
DVT strategies for use presentation	Associations and collocations
DVT strategies for practice	Memory images, semantic mapping, labels, conversations and dialogue, synonyms and antonyms, repetitions, vocabulary tests and games
IVT strategies for discovery	Dictionary use, guessing from context
IVT strategies for consolidation	Recycling

Research Questions

RQ1: Do Content Area Teachers (CATs) at YIC teach English Technical Vocabulary (ETV) items directly or indirectly?

RQ2: What are the preferred Vocabulary Teaching Strategies (VTS) for teaching ETV items from the viewpoint of the CATs at YIC?

METHODOLOGY AND METHODS

This study is a qualitative one which was carried out under the case study tradition. It was employed to gather data about the beliefs of six CATs at YIC who teach English for different purposes (see table 5.1). The CATs were pre-interviewed to listen to their self-reported practices about the strategies they use in teaching technical vocabulary. Then, they were observed in their classrooms with the purpose to gather information about their actual classroom practices (i.e., strategies they employ in teaching ETV items. Then, the CATs were post interviewed through (stimulated recall) type after each classroom observed to find out why certain VTS were utilised in their lessons. The main advantage associated with using stimulated recall interviews, which is another technique for eliciting verbal commentaries on language teacher cognition research, is that it examines interactive thinking, since teachers cannot teach and talk about their thoughts at the same time (i.e. concurrent verbalisation is not possible). However, this technique has been criticised for not being accurate, since participants' information is no longer in their short-term memories, participants' answers are needed at the time of the interview, the stimulus (e.g. tape-recorder) supplements teachers' incomplete memories, and the extent to which the prompts used to assist participants' recall may impact their style of reporting their thinking (Borg, 2006: 211).

Table 5.1: YIC Participants' Background Information

Participant	Degree held	Teaching experience	Major	Nationality	Module observed
CAT ZU	B.Sc. Electronics	21 yrs.	Electronics	Indian	Electronic Troubleshooting & Maintenance
CAT AN	B.Sc. in Electricity	18 yrs.	Electric Power	Indian	Electrical Troubleshooting
CAT MZ	M.Sc. in Mechanical Engineering	18 yrs.	Manufacturing	Indian	Machine Process
CAT AL	M.Sc. in Finance	3.5 yrs.	Economy	Pakistani	Introduction to Economics
CAT VN	Ph.D. in Management	10 yrs.	General Management	Filipino	Industrial Supervision
CAT KU	M.Sc. in Mechanical Engineering	12 yrs.	Mechanics	Indian	Equipment maintenance

RESULTS AND DISCUSSION

This part presents the findings of the study based on the two research questions introduced in section 4.

Findings about the direct/indirect teaching of technical vocabulary by CATs

To describe the manner of teaching ETV items, I will concentrate on the way the strategies were employed (directly and/or indirectly) as well as the type of strategy itself. The data provided below represent teaching ETV items in a task which is both vocabulary focused (intentional vocabulary teaching) and non-vocabulary focused (incidental vocabulary teaching).

The CATs reported that they teach both directly and indirectly using different strategies for each purpose. As far as DVT goes, definitions, exemplifications and pictures were reported as the main strategies used by CATs to present the meaning of ETV items. Memory images and repetitions were reported to be two strategies they directly use to practise previously learnt ETV items. Insofar as IVT is concerned, the CATs reported that they encourage students to use a dictionary (CAT ZU), visit the college library and surf the Internet to discover more information about certain ETV items. In this regard, CAT VN commented:

"Sometimes I give them the name of the author and the book, which is available in the library and I ask the students to go to find them and check the words I asked them about". (CAT VN)

By and large, teaching that combines direct and indirect strategies was also reported by the CATs, with the former being used more than the latter.

Overall, the data revealed several interesting findings about the direct and indirect teaching of ETV items. First of all, CATs stated that they directly and frequently use the following strategies: definitions, exemplifications and pictures. These three strategies, according to all the CATs interviewed, are used jointly most of the time to present the meaning of novel ETV items directly.

Secondly, the data also shows that CATs use most of the strategies to teach directly. In a few circumstances, CATs reported that they encourage students to do context guessing and train them to use dictionaries, which are two strategies reported to be used for teaching ETV items indirectly.

Thirdly, some strategies were also reported to be used jointly. Definitions, for example, were reported to be used with synonyms and antonyms, pictures, exemplifications and translations, or with any combination of these aforementioned strategies.

Finally, the data showed that there are some similarities as well as individual variations among the CATs interviewed. For instance, most CATs reported using strategies for presenting and practising ETV items. However, all the CATs reported focusing on strategies for consolidation (memorisation) more than those for discovery. Other similarities among all the CATs interviewed were reflected in their reporting that they do not use realia, scales or collocations.

On the other hand, some CATs claimed that they prefer certain ETV items teaching strategies instead of others. Table 6.1 shows the preferred VTS which the participants reported that they used.

Table 6.1: VTS CATs Reported They Prefer Using

VTS CATs reported they prefer using
Recycling > repetitions
Definition > word parts
Memory images> attention to register Synonyms > translations
Collocations > exemplifications Definitions > synonyms
Attention to register > memory images Exemplifications > collocations
Key: (>) = 'instead of'

The findings of the present study coincide with the findings of some studies of L2 vocabulary instruction, especially within the topic of the superiority of VTS for meaning presentation and practice. For example, Beck *et al*. (20020, Nagy (2005) and Folse (2004) argue that rich vocabulary instruction (direct) cannot be rich without definitions, which is what the teachers in the present study believe as well. Likewise, findings from the present study also stress that combining definitions with exemplifications achieves different instructional goals, which is in line with other L2 vocabulary studies as noted by Baumann and Kameénui (2004) and McKeown and Beck, 2004: 16). The teachers in my study were also found to use a strategy which is considered effective by

other researchers (Mezynski, 1983; Stahl and Fairbank, 1986) who believe that in order for DVT to be effective, it first needs to offer multiple exposures of the words being taught.

Study Pedagogical Implications and Recommendations

The findings of this study, practically-speaking, are expected to serve more than one purpose by creating knowledge which will be useful to researchers in the field of language teacher cognition and L2 vocabulary instruction, teachers and teacher educators, materials writers and administrators in the local context, as well as for a wider audience. That said, the following pedagogical implications will be important:

- CATs should give more time for indirect vocabulary teaching in which they train their science students to use dictionaries and context guessing to explore the meaning of newly met ETV items.
- Communicative Language Teaching (CLT) method stresses the importance of student-centered classrooms which encourages us to advise teachers to give student wider room to select their preferred learning strategies.
- CATs are also encouraged not to rely on their preferred VTS. Instead of this practice, they should use a mixture of strategies. This diversity will help and give consideration to the issue of students' individual differences.
- The administration at the study context is advised to listen to the concerns of the CATs regarding the difficulties they face in achieving the mission of ETV instruction and provide needed support.
- The material designers are encouraged to select topics which allow for using different VTS. They are also recommended to consider revision chapters in which students use practice VTS.
- It is also recommended to introduce teachers' guide for introducing and revising ETV items by the course designers in which they suggest some strategies for teaching specific advanced ETV items.
- Methodologically, it is important for the researchers in the area of teachers' beliefs and practices to distinguish between teachers' practices and their self-reported practices. The former means what teachers do in their classrooms whereas the latter refers to what they think should be done.
- Finally, it is highly recommended to further our understanding about the CATs' beliefs and practices in ETV items teaching strategies by conducting future study in a similar context.

References

Abdel Latif, M. (2006). The teachability of second/foreign language learning strategies. *Essex Graduate Student Papers in Language and Linguistics, 8*, 18-42.

Alghamdi, A. (2013). Technical Vocabulary Instruction in a Saudi Arabian Industrial College: An Investigation of English Language and Content Area Practitioners' Beliefs and Practices. (Unpublished t thesis).

Baumann, J., & Kameénui, E. (2004). *Vocabulary instruction: Research to practice*. New York: The Guilford Press.

Beck, I., McKeown, M., & Kucan, L. (2002). *Bringing words to life: Robust vocabulary instruction*. New York: The Guilford Press.

Borg, S. (2006). *Teacher cognition and language education: Research and practice*. London; New York: Continuum.

Folse, K. S. (2004). *Vocabulary myths: Applying second language research to classroom teaching*. Ann Arbor: University of Michigan Press.

Fujiware, B. (1990). Learner training in listening strategies. *JALT*, *12*(2), 203-17.

Hiebert, E., & Kamil, M. (2005). *Teaching and learning vocabulary: Bringing research to practice*. New Jersey: Lawrence Erlbaum Associates, Inc.

Kennedy, C., & Bolitho, R. (1984). *English for specific purposes*. London: Macmillan.

Kouraogo, P. (1993). Language learning strategies in input-poor environment. *System*, *21*(2), 165-173.

McKeown, M., & Beck, I. (2004). Direct and rich vocabulary instruction. In J. Baumann & E. Kameénui (Eds.), *Vocabulary instruction: Research to practice* (pp. 13-17). New York: The Guilford Press.

McWilliam, N. (1998). *What's in a word? Vocabulary development in multilingual classrooms*. Stoke on Trent: Trentham Books. training on reading comprehension. *Review of Educational Research, 53*(2), 253-279.

Mezynski, K. (1983). Issues concerning the acquisition of knowledge: Effects of vocabulary

Nagy, W. (2005). Why vocabulary instruction needs to be long-term and comprehensive? In E. Hiebert & M. Kamil (Eds.), *Teaching and learning vocabulary: Research to practice* (pp. 27-44). New York: Routledge.

Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.

O'Malley, J. M., Chamot, A. U., Stewener-Manzanares, G. Kupper, L., & Russo, R. (1985). Learning strategies used by beginning and intermediate ESL students. *Language Learning, 35*(1), 21-46.

Scott, J., & Nagy, W. E. (2004). Developing word consciousness. In J. Baumann & E. Kameénui (Eds.) (2004). *Vocabulary instruction: Research to practice* (pp. 201- 217). New York: The Guilford Press.

Stahl, S., & Fairbank, M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. *Review of Educational Research, 56*, 72-110.