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UNIVERSITÀ CATTOLICA DEL SACRO CUORE

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EXPLORING VOCABULARY-RELATED EPISTEMOLOGICAL BELIEFS WITH Q-METHODOLOGY

JAMES ROCK

1. Introduction

In recent decades, various studies have shown that individuals' beliefs may directly affect their behaviour, motivation and learning outcomes¹. In terms of learner behavior, there certainly appears to be a positive correlation between what learners believe represents an effective learning strategy and the kinds of strategies they use². Moreover, further research suggests that the kinds of beliefs language learners have in their ability to successfully perform a language learning task can determine both the frequency and kinds of strategies they adopt³. As a result, it is becoming increasingly apparent that teachers need to make a greater effort to understand how students view the learning process and themselves as learners. This means becoming more knowledgeable and aware of the kinds of beliefs that students hold, as well as being able to differentiate between students who differ in terms of personal beliefs. Finally, teachers need to be more familiar with the pedagogical applications that can be introduced to encourage more sophisticated belief systems.

When discussing beliefs, it is necessary to differentiate between the types of beliefs that students possess about learning, i.e. epistemological beliefs, and those beliefs that they hold about themselves as learners, i.e. self-efficacy beliefs. The former refer to the beliefs students possess about learning and knowledge, whereas the latter have a high-degree of context-specificity and concern an individual's beliefs about his or her ability to successfully perform a specific task within a domain. In this study, attention is restricted to solely exploring individuals' epistemological beliefs, however, teachers should be aware that such beliefs only represent a single domain and that learners possess other kinds of beliefs.

¹ R.G. Abraham – R.J. Vann, *Strategies of two language learners: A case study*, in *Learner strategies in language learning*, A. Wenden – J. Rubin ed., Englewood Cliffs, N.J., Prentice Hall 1987, pp. 85-102; B. Hofer, *Epistemological Beliefs and First-Year College Students: Motivation and Cognition in Different Instructional Contexts*. Paper presented at the annual meeting of the American Psychological Association, Los Angeles 1994; M. Schommer, *Effects of Beliefs About the Nature of Knowledge on Comprehension*, "Journal of Educational Psychology", LXXXII, 1990, pp. 498-504.

² J.P. Holschuh, *Assessing epistemological beliefs in biology: Measurement concerns and the relation to academic performance*, Unpublished doctoral dissertation: University of Georgia, Athens 1998; M. Schommer, *Effects of Beliefs About the Nature of Knowledge on Comprehension*.

³ F. Heidari, *The Relationship Between Iranian EFL Learners' Self-efficacy Beliefs and Use of Vocabulary Learning Strategies*, "English Language Teaching", V, 2012, 2, pp. 174-182; N.D. Yang, *The Relationship Between EFL Learners' Beliefs and Learning Strategy Use*, "System", XXVII, 1999, pp. 515-535.

In terms of personal epistemology, my aim is to apply Schommer's⁴ multidimensional epistemological framework to the domain of vocabulary learning, in an effort to understand which epistemological dimensions are more or less favoured by Italian university learners of English as a foreign language. It is hoped that this study will, thus, provide us with a better understanding as to the motivation behind the adoption of certain vocabulary learning strategies by some learners and not by others.

Attention will now be given to discussing epistemological beliefs in more detail. This will be followed by a description of Q-methodology, which is the research strategy adopted in this investigation. Q-methodology is an extremely effective way of studying the subjective viewpoint, or beliefs, of a subject, and has not, to my knowledge, been used in the field of vocabulary learning.

2. *Theoretical framework*

2.1 Epistemological beliefs

Research on epistemological beliefs can be traced back to Perry's⁵ seminal work that provides the basis for many existing models⁶. Perry argued that students go through stages of development of epistemological beliefs. Early on, students view knowledge as either right or wrong and they believe that an authority figure, such as a teacher, knows the answers. As students become more epistemologically mature and, thus, reach a more advanced stage of epistemological development, they realise that there are multiple possibilities for knowledge and that one must firmly commit to certain ideas. In essence, therefore, a learner moves from being a passive recipient of knowledge to being actively involved in the learning process.

It is particularly important to point out that Perry hypothesises that personal epistemology progresses in a linear fashion and can be captured in a single dimension. This view has been strongly opposed by Schommer⁷, who argues that personal epistemology is non-linear and is composed of several more or less independent dimensions. She presents a multidimensional model of epistemological beliefs, which identifies five core constructs reflecting students' epistemological beliefs: a) innate ability; b) speed of knowledge; c) source of knowledge; d) structure of knowledge; and e) certainty of knowledge. This theory of personal epistemology forms the structural foundation for the current study of epistemic beliefs.

- a. The first dimension, innate ability, is derived from research on beliefs about the nature of intelligence. Some students have a strong belief that intelligence is fixed, whereas others believe that it is incremental. A person with a more sophisticated view of innate

⁴ M. Schommer, *Effects of Beliefs About the Nature of Knowledge on Comprehension*.

⁵ W.G. Perry, *Patterns of Development in Thought and Values of Students in a Liberal Arts College: A Validation Scheme*, Harvard University, Cambridge 1968.

⁶ M. Schommer, *Effects of Beliefs About the Nature of Knowledge on Comprehension*.

⁷ *Ibidem*.

- ability believes that intelligence functions more like a skill that can be improved with effort and persistence.
- b. The second dimension refers to speed of knowledge acquisition. This dimension is derived from work by Schoenfeld⁸. His research found that some students seem to believe in quick, all-or-nothing learning. The more sophisticated view here is that learning is a gradual process that requires continued effort and persistence.
 - c. The third dimension, source of knowledge, reflects a range of views regarding the role of an authority. The unsophisticated view is that knowledge is external to the learner and must be obtained from an authority. The more sophisticated view sees the learner as an active participant rather than a passive recipient.
 - d. The fourth dimension concerns the structure of knowledge. This reflects a continuum that ranges from an understanding of knowledge as a simple collection of discrete, concrete facts, and progressing to a viewpoint with a more complex contextual understanding of knowledge.
 - e. The last of Schommer's hypothesised dimensions is certainty of knowledge. This belief describes a continuum that ranges from an unsophisticated view of knowledge as absolute truth to a more sophisticated view that knowledge is tentative and evolving.

An interesting finding has been that the effects of learner beliefs on learning seem to exist independently of one's ability to learn. Thus, positive beliefs could potentially compensate for one's limited ability. Students who believe, for instance, that intelligence can be increased through learning good study skills could outperform those who are possibly superior in intelligence, but believe in fixed intelligence⁹. Furthermore, learners who are confident in their ability to control important aspects of their learning are often more likely to persist in challenging learning situations than those who are not¹⁰.

The majority of epistemological belief studies have investigated the effects of learner beliefs on learning in general, but not specifically on language learning. However, in the last decade researchers have begun to focus on domain- or discipline-specific epistemological beliefs¹¹. Findings suggest that students' epistemological beliefs may vary by domain, thus, learners may have very different beliefs about certain domains, such as mathematics and languages. In this study, it is argued that as language learning, and its sub-component 'vocabulary learning', is a specific type of learning, the theoretical framework used in educational research could be useful in understanding the vocabulary-related epistemological beliefs of learners.

⁸ A.H. Schoenfeld, *Explorations of Students' Mathematical Beliefs and Behavior*, "Journal for Research in Mathematics Education", XX, 1989, pp. 338-355.

⁹ C.I. Diener – C.S. Dweck, *An Analysis of Learned Helplessness: the Process of Success*, "Journal of Personality and Social Psychology", XLVII, 1980, pp. 580-592.

¹⁰ D.H. Schunk, *Self-efficacy and Achievement Behaviors*, "Educational Psychology Review", I, 1989, pp. 173-208.

¹¹ M.M. Buehl – P.A. Alexander – P.K. Murphy, *Beliefs About Schooled Knowledge: Domain Specific or Domain General?*, "Contemporary Educational Psychology", XXVII, 2002, pp. 415-449.

2.2 Using Q-methodology to explore vocabulary learning beliefs

Most studies on epistemic beliefs have been undertaken using interviews or self-report questionnaires¹². Although both methodological instruments have, indeed, helped provide detailed, in-depth data, and consequently furthered our knowledge of individuals' epistemological belief systems, they also possess certain limitations. The collection and analysis of qualitative interview data is a lengthy tiresome process and it is often difficult for a researcher to find a suitably-sized sample that is reasonably representative of the population. Furthermore, interviews are difficult to replicate, thus, resulting in researchers finding it extremely difficult to make broad conclusions from their research. In terms of quantitative analysis, an inherent weakness of questionnaire data regards the degree of accuracy of the data provided by respondents. Thus, it is extremely difficult to gauge whether individuals' responses actually reflect reality, or have been influenced by other variables, such as 'social desirability bias'. In addition, some researchers are sceptical as to how well traditional quantitative measures are able to reveal subjective elements, such as beliefs, points of view, values and feelings¹³. Indeed, research by De Backer et al¹⁴ suggests that findings from Schommer's commonly-used Epistemological Questionnaire¹⁵ should be interpreted cautiously.

A good alternative is to make use of Q-methodology. This concerns an individual's communication of his or her point of view¹⁶ and is founded on the premise that individuals can display their subjective points of view and that these viewpoints can then be measured and analysed. The method was invented by William Stephenson in 1935 and it manages to combine the strengths of both qualitative and quantitative research traditions¹⁷. It is noticeably different from traditional ways of collecting data about attitudes or beliefs, which involved performing a small number of quantitative tests on a large number of respondents.

With Q-methodology we give a fairly small number of respondents a set of statements that represents many different viewpoints, both positive and negative, on a specific topic. This set of statements is called the Q-sample, and the items included in the sample are chosen from a far larger concourse of statements. Each respondent is then asked to rank order the statements into a fixed distribution (see figure 1 below), in accordance with a specified condition of instruction, which could be 'most like' or 'most unlike' me or most agree/least agree. This procedure is known as Q-sorting.

¹² P.M. King – K.S. Kitchener, *Reflective Judgment: Theory and Research on the Development of Epistemic Assumptions through Adulthood*, "Educational Psychologist", XXXIX, 2004, pp. 5-18.

¹³ S.R. Brown, *Political Subjectivity: Applications of Q-methodology in Political Science*, Yale University Press, New Haven 1980; W. Stephenson, *Correlating Persons instead of Tests*, "Character and Personality", IV, 1935, pp. 17-24.

¹⁴ T.K. De Backer – H.M. Crowson – A.D. Beesley – S.J. Thoma – N. Hestevold, *The Challenge of Measuring Epistemic Beliefs: An Analysis of Three Self-Report Instruments*, "Journal of Experimental Education", LXXVI, 2008, pp. 281-312.

¹⁵ M. Schommer, *Effects of Beliefs About the Nature of Knowledge on Comprehension*.

¹⁶ W. Stephenson, *The Study of Behavior: Q-technique and its Methodology*, University of Chicago Press, Chicago 1953.

¹⁷ K.E. Dennis – A.P. Goldberg, *Weight Control Self-efficacy Types and Transitions Affect Weight-loss Outcomes in Obese Women*, "Addictive Behaviors", XXI, 1996, 1, pp. 103-116.

Figure 1 - *The response chart used in this study*

-5 Least agree	-4	-3	-2	-1	0	1	2	3	4	5 Most agree

Through the Q-sorting process, the individual preferences of all the respondents are revealed and communicated. The results of all the Q-sorts then undergo correlation and factor analysis, and respondents with similar beliefs come together on the same factor, while individuals holding different beliefs about the topic will define another factor, or factors. Each factor will have a distinct theme, or feeling, running through it and this provides the basis for our comprehension of the factors that emerge¹⁸.

By correlating people rather than questionnaire items, Q-factor analysis provides information about similarities and differences in viewpoint on a particular subject. A researcher is, thus, able to group respondents into types on the basis of overall beliefs. The real benefit of adopting Q-methodology was that it enabled the participants involved in the study to express the relative strength of the various vocabulary-related epistemological belief dimensions.

2.3 Research questions

Information was sought about the following research questions:

1. What are the vocabulary-related epistemological belief profiles of Italian university EFL students?
2. What are the main distinguishing characteristics of their vocabulary-related epistemological belief profiles?
3. Methodology

3.1 Phase 1: Pilot Q-study

A pilot Q-study was carried out in order to bring to light any weaknesses with the Q-statements or the procedures used. Twenty adult EFL learners took part in the pilot study and they were presented with forty-two statements that were all related to vocabulary learning. The statements were carefully selected from a larger concourse of statements about successful and unsuccessful vocabulary learning, which represented a wide range of views and reflections on the topic. Thirty of the statements, found in the Q-sample, involved applying Schommer’s¹⁹ epistemological belief dimensions to vocabulary learning. The remaining

¹⁸ W. Stephenson, *Against Interpretation*, “Operant Subjectivity”, VI, 1983, 3, pp. 73-103.

¹⁹ M. Schommer, *Effects of Beliefs About the Nature of Knowledge on Comprehension*.

12 statements concerned metacognitive beliefs (selective attention and self-initiation) and were adapted from various studies, such as Gu and Johnson²⁰, and Fan²¹. Results highlighted the absence of any distinct factors that distinguished between participants. It appeared that all the subjects had loaded to varying degrees on a single factor.

Further analysis indicated that all students had ranked the 12 metacognitive belief statements highly in the Q-sort. This was not a bad thing in itself. However, it made it impossible to identify differences in underlying epistemological belief systems, as many of these beliefs were given fairly neutral ratings by the sorters. Hence, it was decided to remove the 12 metacognitive statements from the main study and only use vocabulary-related epistemological belief statements, in the hope that this would allow any distinct individual belief systems to emerge.

3.2 Phase 2: Main study

Participants

Forty learners took part in the main study. They were all studying English as a foreign language at a university in the north of Italy. By the time the study took place, all of the learners had completed, on average, about 10 years of EFL study within the Italian education system. In order to slightly increase the diversity of the participants selected, the respondents were taken from two undergraduate university classes. Group one consisted of 20 second year students, who had all failed to achieve a pass mark in the end-of-year EFL written examination. This is an advanced, C1 level exam, and so students in group one were all assumed to have a knowledge of English below advanced level. All members of group one were at the time of this study, thus, attending a specially-designed English course, which essentially aimed at provided students with intense exam practice. Group two also contained twenty second year EFL students. However, none of these students had taken the end-of-year written examination. Having worked closely with both groups of students on a weekly basis, it was hypothesised by the researcher that students in group one had a lower general level of English than those in group two. This hypothesis was confirmed, as far as receptive vocabulary size is concerned, with students in group one performing less successfully, on the whole, than members of group two on a 5,000-word vocabulary size test²². All 40 respondents completed the Q-study.

Selecting statements for the sorting phase

Thirty-six statements were included in the revised Q-sample. Based on the findings from the pilot study, only statements that reflected the five hypothesized dimensions of Schom-

²⁰ Y. Gu – R.K. Johnson, *Vocabulary Learning Strategies and Language Learning Outcomes*, “Language Learning”, XLVI, 1996, pp. 643-679.

²¹ M.Y. Fan, *Frequency of Use, Perceived Usefulness, and Actual Usefulness of Second Language Vocabulary Strategies: A Study of Hong Kong Learners*, “The Modern Language Journal”, LXXXVII, 2003, pp. 222-241.

²² P.M. Meara – J.L. Milton, *X_Lex: The Swansea Vocabulary Levels Test*, Express, Newbury 2003.

mer's²³ multidimensional model of epistemological beliefs were included in the Q-sample. This was necessary, as the purpose of the study was to illuminate our understanding of the vocabulary-related epistemological beliefs of Italian university students. Thus, of the final 36 statements that were included in the main Q-sample, 30 statements were adopted from the pilot study, with some slight modifications made to the wording of several of those items. Six new statements were also included in the main study. Four of those were added to the 'source of knowledge' dimension and two to the 'fixed ability' dimension²⁴. This was done so, as the findings from the pilot study had suggested that there were some clear differences in opinion among subjects on those dimensions. In total, therefore, 17 items were termed sophisticated beliefs, i.e. they represented the kinds of strategies associated with successful vocabulary learning, and 19 items were unsophisticated beliefs, i.e. the kinds of strategies associated with less successful vocabulary learning. The decision to include both sophisticated and unsophisticated beliefs was done so, in order to determine whether the belief dimensions, so crucial to epistemological beliefs, would also emerge in the domain of vocabulary learning.

Q-study procedure

- Respondents received a set of 36 statements, which were printed on small cards. The cards were all randomly numbered to obscure the underlying structure of the Q-item sample.
- Each respondent was asked to read through the 36 statements and then to sort them into two piles, based on whether they agreed or disagreed with each statement.
- After the initial sort, the respondent distributed the statements along an 11-point continuum from 'most agree' to 'least agree'.
- When a respondent finished the Q-sort, he/she had sorted the 36 statements into a quasi-normal forced distribution on the response chart.

Analysis of the Q-study

The Q-study data was analysed using PQMethod, which is a free statistical program that can easily be freely downloaded from the PQMethod website (www.PQMethod.org). The software was developed by Peter Schmolck and is specifically designed to match the requirements of Q studies. It is very user-friendly and allows the researcher to easily enter the Q-sorts the way they are collected.

On completion of the sorting process, the ranking of each statement, for all 40 Q-sorts, was entered into PQMethod and analysed. The program initially computed intercorrelations among the Q-sorts, which were then submitted to factor-analysis and a Varimax rotation. This was undertaken in order to maximize certain factors.

²³ M. Schommer, *Effects of Beliefs About the Nature of Knowledge on Comprehension*.

²⁴ One statement was also removed from the 'certainty of knowledge' dimension, and an extra statement added to the 'quick learning' dimension.

4. Findings

After a combination of auto- and hand- flagging, 29 Q-sorts loaded significantly on one of two factors. The remaining 11 sorts consisted of 8 sorts that loaded significantly on both factors and three sorts that did not load significantly on either factor. In the current study, a significant factor loading exceeded 0.43 in absolute value terms. The significance value was calculated by multiplying 2.58 (for $\alpha=0.01$) by the standard error for a factor loading. The standard error is simply the reciprocal of the square root of the number of items sorted. Following examination of the sorts, an additional Q-sort was placed on factor two. This was due to its high loading (0.70) on factor two and lower loading (0.46) on factor one. This resulted in an even balance of 15 sorts loading on factor one and 15 sorts on factor two (appendix 1).

4.1 Research question 1

What are the vocabulary-related epistemological belief profiles of Italian university EFL students?

Before exploring factors 1 and 2 and describing the vocabulary-related epistemological beliefs of the respondents in this study, it should be pointed out that there was a relatively high correlation between factors 1 and 2 ($r=0.55$). Consequently, all the participants in the study seem to share many commonly-held beliefs about vocabulary learning. This was to be expected, as the respondents in the study had all studied English as a foreign language for a lengthy period of time within the Italian educational system, and they had also been sufficiently motivated to study English at degree level. Attention will now be given to discussing the vocabulary learning beliefs of both groups of students. This will involve discussing each factor in turn and going through Schommer's five hypothesized dimensions of epistemological beliefs, i.e. *innate ability*; *speed of knowledge*; *source of knowledge*; *simplicity of knowledge*; and *certainty of knowledge*. In doing so, an attempt will be made to describe the level of importance attached to each dimension by respondents on factors 1 and 2.

Factor 1

In figure 2 below, there is a noticeable difference between how the sophisticated (highlighted in grey) and unsophisticated vocabulary-related beliefs are positioned on the chart. In general, the sophisticated beliefs are positively ranked, which suggests that the subjects who loaded significantly on this factor had reasonably well-developed epistemological beliefs about vocabulary learning.

Figure 2 - The Q-sort values for each statement for factor 1. Grey indicates 'sophisticated' beliefs.
Factor 1 - More autonomous learners

						Being able to translate the meaning of a new word into your own language is all that is involved in vocabulary learning.				
				The beauty of vocabulary learning is the fact that words have multiple meanings and are constantly evolving.	You should use your monolingual dictionary to check the meaning of a word before looking up the word in your bilingual dictionary.	Studying English grammar involves learning lots of rules. If only English vocabulary were more transparent and words had a single meaning.				
			Once you know a single meaning of a word, you can easily apply that meaning in all contexts in which the word is used.	Multiple meanings of words make the language more interesting.	It is a good idea to check the meaning of a new word in a dictionary before trying to work out the meaning of the word on your own.	A bilingual dictionary is better than a monolingual dictionary.	Connecting new words with existing knowledge makes learning more interesting.			
	When a word you know is used in an unrecognizable context, it must mean that the word is being used incorrectly.	It is more beneficial to memorize new words as individual units, rather than focusing on how the words are used with other words.	It is frustrating to have to work hard in order to understand what a word means.	Learning new foreign words depends more on the learner than on the teacher.	Learning new words is easier if you only focus on your teacher's example sentences, rather than try to create your own.	Guessing the meaning of new words from the surrounding context is something you should always try to do.	Language learning is more than only words and rules that have to be memorized.			
	Using both a bilingual dictionary and a monolingual dictionary to work out the meaning of a word only creates further confusion for a learner.	Good study skills make little difference if you are not naturally good at learning languages.	You should try to figure out the meaning of a new word on your own without the help of your teacher.	Good language students reach a higher level of language proficiency because they are naturally good at learning languages.	When I meet a difficult word in a text, I stick with it until I find out its meaning.	If you can't quickly work out the meaning of a new word in a text, from the surrounding words or the form of the word, continue reading.	The first thing you should do when you meet a new word is ask your teacher to explain it.	Learning good study skills can improve your language learning ability.	A poor language learner can be trained to become a good language learner.	
Working out the meaning of a new word from the surrounding context is not very helpful.	Working out the meaning of a new word in a text is easier if you only consider the structure of the word and not the other words in the sentence.	You should not always believe everything your teacher tells you.	Words are unconsciously acquired over a period of time anyhow, so it is advisable to spend your time on other features of the language.	Some people are just born with better language learning ability.	Writing down information (meaning, grammatical properties, IPA) about a new English word takes a lot of time and is not very helpful.	Learning a new word involves moving through a series of stages in which different aspects of the word are acquired.	Learning what a word means and how it is used is something that requires a lot of time and effort.	When you look up a new word in a dictionary, it is important to look at various features of the word.	When you meet a new word in a text, it is better to use multiple sources to help work out its meaning, rather than use a single source.	Everyone can learn a foreign language if they work hard enough.
-5 Least agree	-4	-3	-2	-1	0	1	2	3	4	5 Most agree

1. Innate ability

Respondents on factor one believe that learning good study skills improves their language learning ability. Interestingly, although they express the belief that it is possible for everybody to become a better language learner, they also believe that some people are naturally better at learning languages than others.

2. Speed of knowledge

They seem to believe that learning new vocabulary is a gradual process and that is very important to write down information about new words.

3. Source of knowledge

They are described in this study as ‘more autonomous learners’, as they strongly feel that it is important for a learner to take control of the learning process. This was clearly illustrated by the way they sorted the following statements:

statement 18 (-4) ‘learning new words is easier if you only focus on your teacher’s example sentences, rather than try to create your own’, statement 15 (-3) ‘it is a good idea to check the meaning of a new word in a dictionary before trying to work out the meaning of the word on your own’, and statement 17 (-2) ‘the first thing you should do when you meet a new word is ask your teacher to explain it.’ Further evidence of their belief in autonomous learning is provided by statement 16 (1) ‘you should try to figure out the meaning of a new word on your own without the help of your teacher’ and statement 14 (1) ‘learning new foreign words depends more on the learner than on the teacher’

These learners also believe that a monolingual dictionary should ideally be used before a bilingual dictionary, and that the monolingual dictionary is superior.

4. Structure of knowledge

They seem to hold sophisticated beliefs regarding the structure of knowledge. Results show that they are aware that learning new words involves more than simply memorising a single meaning, and that connecting new words with existing knowledge makes learning more interesting. They also recognise the importance of guessing the meaning of new words from the surrounding text, and that it is important to consider other words in a sentence when trying to work out the meaning of a new word. Furthermore, they recommend using multiple sources (guessing from context, dictionary, word parts) to help work out the meaning of a new word in a text, and that it is important to look at various features of the word in a dictionary (pronunciation, grammatical properties, etc). In this respect, they do not feel it is confusing to use both a bilingual and monolingual dictionary when working out the meaning of a new word.

5. Certainty of knowledge

They seem to be aware that words can have multiple meanings and that the meaning of a word can change in different contexts. They also appear to welcome the fact that words are evolving and may have multiple meanings.

Strong belief that multiple meanings of words makes the language more interesting, statement 34 (5) ‘The beauty of vocabulary learning is the fact that words have multiple meanings and are constantly evolving’ and statement 36 (-2) ‘Studying English grammar involves learning lots of rules. If only English vocabulary were more transparent and each word had a single meaning’ and statement 32 (2) ‘Multiple meanings of words make the language more interesting’.

Moderate belief that words can have multiple meanings, statement 33 (-3) ‘Once you know a single meaning of a word, you can easily apply that meaning to all contexts in which the word is used’ and statement 35 (-2) ‘When a word you know is used in an unrecognizable context, it must mean that the word is being used incorrectly’

Figure 3 - The Q-sort values for each statement for factor 2. Grey indicates ‘sophisticated’ beliefs
Factor 2 - Less autonomous learners

					Being able to translate the meaning of a new word into your own language is all that is involved in vocabulary learning.						
				The beauty of vocabulary learning is the fact that words have multiple meanings and are constantly evolving.	You should use your monolingual dictionary to check the meaning of a word before looking up the word in your bilingual dictionary.	Studying English grammar involves learning lots of rules. If only English vocabulary were more transparent and words had a single meaning.					
			Once you know a single meaning of a word, you can easily apply that meaning in all contexts in which the word is used.	Multiple meanings of words make the language more interesting.	It is a good idea to check the meaning of a new word in a dictionary before trying to work out the meaning of the word on your own.	A bilingual dictionary is better than a monolingual dictionary.	Connecting new words with existing knowledge makes learning more interesting.				
	When a word you know is used in an unrecognizable context, it must mean that the word is being used incorrectly.	It is more beneficial to memorize new words as individual units, rather than focusing on how the words are used with other words.	It is frustrating to have to work hard in order to understand what a word means.	Learning new foreign words depends more on the learner than on the teacher.	Learning new words is easier if you only focus on your teacher's example sentences, rather than try to create your own.	Guessing the meaning of new words from the surrounding context is something you should always try to do.	Language learning is more than only words and rules that have to be memorized.				
	Using both a bilingual dictionary and a monolingual dictionary to work out the meaning of a word only creates further confusion for a learner.	Good study skills make little difference if you are not naturally good at learning languages.	You should try to figure out the meaning of a new word on your own without the help of your teacher.	Good language students reach a higher level of language proficiency because they are naturally good at learning languages.	When I meet a difficult word in a text, I stick with it until I find out its meaning.	If you can't quickly work out the meaning of a new word in a text, from the surrounding words or the form of the word, continue reading.	The first thing you should do when you meet a new word is ask your teacher to explain it.	Learning good study skills can improve your language learning ability.	A poor language learner can be trained to become a good language learner.		
Working out the meaning of a new word from the surrounding context is not very helpful.	Working out the meaning of a new word in a text is easier if you only consider the structure of the word and not the other words in the sentence.	You should not always believe everything your teacher tells you.	Words are unconsciously acquired over a period of time anyhow, so it is advisable to spend your time on other features of the language.	Some people are just born with better language learning ability.	Writing down information (meaning, grammatical properties, IPA) takes a lot of time and is not very helpful.	Learning a new word involves moving through a series of stages in which different aspects of the word are acquired.	Learning what a word means and how it is used is something that requires a lot of time and effort.	When you look up a new word in a dictionary, it is important to look at various features of the word.	When you meet a new word in a text, it is better to use multiple sources to help work out its meaning, rather than use a single source.	Everyone can learn a foreign language if they work hard enough.	
-5 Least agree	-4	-3	-2	-1	0	1	2	3	4	5 Most agree	

Factor 2

In figure 3 above, it is immediately clear that there is far more irregularity in terms of how the sophisticated (highlighted in grey) and unsophisticated vocabulary-related beliefs are positioned on the chart. This suggests that those subjects who loaded significantly on fac-

tor 2 held less-sophisticated vocabulary-related epistemological beliefs in, at least, one hypothesized dimension than those subjects on factor 1.

1. Innate ability

Respondents on factor two firmly believe that everybody can learn a foreign language if they work hard enough. They also believe that poor language learners can be trained to become good language learners, through acquiring good study skills. They do not believe that natural ability is a defining characteristic of a good language learner.

2. Speed of learning

They appear to be unaware of the importance of writing down information about new words. However, on a more positive note, they seem to understand the incremental nature of vocabulary learning and realise that it requires significant time and effort.

3. Source of knowledge

They are described as 'less autonomous learners', as they appear to be heavily dependent on their classroom teacher and bilingual dictionary. This view is illustrated by strong disagreement with statement 20 (-3) 'you should not always believe everything your teacher says', and their responses to statement 16 (-2) 'you should try to figure out the meaning of a new word on your own without the help of your teacher', and statement 18 (1) 'learning new words is easier if you only focus on your teacher's example sentences, rather than try to create your own.' This is further strengthened by their view that a teacher is the best source of knowledge when a new word appears in a text. As regards dictionary use, they appear to favour a bilingual over a monolingual dictionary.

4. Structure of knowledge

They appear to believe that English vocabulary is complex and constantly evolving. This view was illustrated by their recognition of the fact that learning new words involves more than simply memorising a single meaning, and that connecting new words with existing knowledge makes learning more interesting. Moreover, they seem to be conscious of the importance of trying to guess the meaning of new words from the surrounding text, and that multiple sources should be used to help a learner discover the meaning of a new word. They also believe that it is a good idea to consider the other words in a sentence when trying to work out the meaning of a new word.

As regards dictionary strategies, they believe that when you look up a word in a dictionary it is important to look at various features of the word (pronunciation, grammatical properties, etc). They do not believe that it is confusing to use both a bilingual and monolingual dictionary when working out the meaning of a new word.

5. Certainty of knowledge

They seem to be aware of the fact that words can have multiple meanings and that the meaning of a word can change in different contexts. However, it was interesting to note

their desire for words to be less complex and have single meanings. This is illustrated by the following statements:

statement 32 (-1) 'Multiple meanings of words make the language more interesting' and statement 34 (-1) 'The beauty of vocabulary learning is the fact that words have multiple meanings and are constantly evolving' and statement 36 (1) 'Studying English grammar involves learning lots of rules. If only English vocabulary was more transparent and each word had a single meaning.'

To sum up, the study suggests that Italian EFL adult learners hold many common beliefs about vocabulary learning, such as recognising:

- the benefit of guessing meaning from context;
- the importance of connecting new words with existing knowledge;
- the benefit of learning new words in context, rather than in isolation;
- the fact that vocabulary learning is more than simply memorising a single meaning;
- the importance of acquiring good study skills;
- the value of looking at various features of words in a dictionary;
- the importance of using multiple sources when working out the meaning of a new word.

4.2 Research question 2

What are the distinguishing characteristics of the vocabulary-related epistemological beliefs of the respondents in the study?

Distinguishing features of each factor

Table 1 below illustrates the statements that distinguish between the two factors. The most obvious feature concerns the role of authority. Subjects on factor 2 appear to possess fairly unsophisticated vocabulary-related epistemological beliefs in this domain. They seem to believe that it is more important to ask a teacher to explain the meaning of a new word, rather than try to work it out for themselves. This is in stark contrast to respondents loading on factor 1, who hold sophisticated beliefs in this regard, and, thus, appear to recognise the importance of independent learning and taking control of their learning. This does not guarantee, of course, that these learners actually put their beliefs into practice while learning new vocabulary. Thus, the relationship between vocabulary-related epistemological beliefs and actual vocabulary learning behaviour could be a fruitful topic for further qualitative research.

As well as emphasising the importance of their teacher, there is also evidence that learners on factor 2 seem to favour using a bilingual dictionary over a monolingual dictionary. The contrary was found with respondents on factor 1. Thus, subjects on factor 2 appear to expect immediate answers and may, therefore, be reluctant to invest additional time and energy into trying to guess the meaning of a new word, or looking up the meaning in a monolingual dictionary. Moreover, the fact that they may be less motivated to take down

information about new words seems to positively correlate with their reluctance to take control of their own learning.

Table 1 - *Distinguishing features of factors 1&2*

DISTINGUISHING STATEMENTS				
N ^a	Statement	F1	F2	Gap
INNATE ABILITY				
2	Good study skills make little difference if you are not naturally good at learning languages.	0	-3	3
3	A poor language learner can be trained to become a good language learner.	1	4	3
5	Some people are just born with better language learning ability.	3	-1	4
6	Everyone can learn a foreign language if they work hard enough.	1	5	6
SPEED OF LEARNING				
8	Learning what a word means and how it is used is something that requires a lot of time and effort.	0	2	2
12	Writing down information (meaning, grammatical properties, IPA) about a new English word takes a lot of time and is not very helpful.	-4	0	4
SOURCE OF KNOWLEDGE				
15	It is a good idea to check the meaning of a new word in a dictionary before trying to work out the meaning of the word on your own.	-3	0	3
16	You should try to figure out the meaning of a new word on your own without the help of your teacher.	1	-2	3
17	The first thing you should do when you meet a new word is ask your teacher to explain it.	-2	2	4
18	Learning new words is easier if you only focus on a teacher's example sentences, rather than try to create your own.	-4	1	5
19	You should use your monolingual dictionary to check the meaning of a word before looking up the word in your bilingual dictionary.	2	0	2
21	A bilingual dictionary is better than a monolingual dictionary.	-1	1	2
STRUCTURE OF KNOWLEDGE				
29	Using both a bilingual dictionary and a monolingual dictionary to work out the meaning of a word only creates further confusion for a learner.	-1	-4	3
CERTAINTY OF KNOWLEDGE				
32	Multiple meanings of words make the language more interesting.	2	-1	3
34	The beauty of vocabulary learning is the fact that words have multiple meanings and are constantly evolving.	5	-1	6
36	Studying English grammar involves learning lots of rules. If only English vocabulary were more transparent and each word had a single meaning.	-2	1	3

As regards 'certainty of knowledge', there was clear variation between the two factors. Learners loading on factor 1 appear to welcome the fact that many words in English have multiple meanings and that the English language is constantly evolving. This was not the case with subjects on factor 2, who desire lexis to be simpler and more semantically transparent. This feature seems to correspond with their unsophisticated views on the role of teachers, dictionary use and note-taking.

On a final note, there may be some disagreement in terms of how both groups of students view innate language learning ability. Whereas subjects on factor 1 strongly believe that some people are born with better language learning ability than others, learners on factor 2 disagree with this view. They believe, on the contrary, that everybody can acquire a foreign language if they put in sufficient effort and develop good study skills.

5. Discussion

The aim of this study was to explore the vocabulary-related epistemological belief profiles of some Italian university EFL students. It was beyond the scope of the investigation to examine, in any great detail, the relationship between the kinds of vocabulary-related epistemological beliefs expressed and various factors, such as educational background, vocabulary level and the types of vocabulary learning strategies they choose to use. Some consideration was given to controlling for receptive vocabulary level. However, the Q-analysis failed to reveal a significant correlation between the kinds of vocabulary-related epistemological beliefs held by university learners and their level of receptive vocabulary knowledge. Consequently, respondents from both the higher and lower vocabulary level groups were fairly evenly distributed throughout factors A & B (see Appendix 1). Nevertheless, the mere fact that slightly more lower-level respondents loaded to a greater extent in this study on factor 2, which was characterised as representing less sophisticated epistemological development, suggests that further research in this area is warranted.

In terms of the kinds of beliefs that Italian learners have about vocabulary learning, this study suggests that many university learners of English in Italy share a vast range of vocabulary-related epistemological beliefs. However, it also appears that there are some noticeable differences among learners. Some subjects in this study appeared to be largely unaware of the importance of taking responsibility for their own learning and are, thus, far too teacher-dependent. Such over-dependence on an external source of knowledge was also seen to co-exist with a lack of epistemological maturity in dealing with the complexity and ambiguity of learning the meanings and word associations of new lexical items. Surprisingly, the learners sharing those beliefs also placed greater emphasis than other learners in the study on the view that everybody can acquire a foreign language if they put in sufficient effort and develop good study skills. It is suggested here that the possible consequence of being too overly-dependent on a foreign language teacher may be that certain learners become simply unable to accept responsibility for their language learning. As a result, they do not recognise, or cannot accept, that they may not have a positive aptitude for foreign language learning. It is, of course, impossible to tell from this investigation if such epistemological naivety is specifically associated with foreign language learning, or whether it would also be found in other fields of study, such as mathematics. Consequently, investigating whether epistemological beliefs about vocabulary learning are domain specific, or are merely the outcome of a broader epistemological belief system in individuals could represent an area for future research.

The implications for university learners of possessing unsophisticated vocabulary-related epistemological beliefs could potentially prove detrimental to the vocabulary learning process, by negating the effectiveness of other more positive vocabulary learning beliefs. Thus, believing that guessing from context is a beneficial strategy to adopt when learning new words, may not be particularly helpful if such learners are highly dependent on an external source of knowledge, such as their teacher or dictionary. On a similar note, it may not be particularly advantageous for learners to simply know that many words have multiple meanings and that items should be learnt in context, if those learners possess stubborn unsophisticated beliefs concerning the structure and/or certainty of knowledge. Such beliefs may, effectively, encourage such learners to steer clear of using their monolingual dictionary and guessing word meaning, and, thus, failing to develop a greater in-depth knowledge of words.

In conclusion, it is recommended that high school educators, in particular, need to become more aware of their learners' epistemological beliefs and should adopt teaching applications that encourage more autonomous learning and the development of sophisticated beliefs about the nature of knowledge. Failure to do so will only result in more language learners arriving at university level without the kinds of sophisticated epistemological beliefs recommended in this study. This could have serious repercussions for several associated areas, including EFL self-concept development and self-efficacy. Moreover, it may negatively impact on learner motivation and their attitude to studying the English language. This may be particularly pertinent at university level, where students are immersed in a competitive academic environment and have to deal with an increasingly complex level of language than experienced in the past. Faced with such a scenario, many students with poorly-developed epistemological belief systems may feel something like a fish out of water and react by adopting self-protection strategies, which may ultimately result in their unsophisticated epistemological beliefs becoming further entrenched and less resistant to change.

Appendix 1 - Factor Loadings

<i>Q-Sort</i>	<i>Code*</i>	<i>Factor 1</i>	<i>Factor 2</i>	<i>Gender</i>
1	B1	0.4758	0.5535	M
5	A3	-0.0722	0.7692	F
6	A4	0.1580	0.3433	F
8	A6	0.1094	0.6558	F
9	B3	0.4063	0.4070	F
10	B4	0.1496	0.6831	F
11	B5	0.2918	0.6349	F
12	B6	0.2009	0.7705	F
13	B7	0.5114	0.5193	M
17	B11	0.5001	0.5023	F
18	B12	0.3032	0.6048	F
22	A9	0.3427	0.5953	F
23	B14	0.3541	0.5056	F
24	B15	0.1269	0.6030	M
26	B17	0.1314	0.6742	F
28	B19	0.5837	0.6603	F
31	A12	0.4580	0.7036	F
34	A4	0.2085	0.6392	F
35	A15	0.0086	0.5260	F
38	A18	0.2128	0.4279	F
39	A19	0.1227	0.4993	F
40	A20	0.4690	0.6007	F
2	B2	0.7089	0.3651	F
3	A1	0.6258	0.3977	F
4	A2	0.5421	0.5321	F
7	A5	0.7616	0.3397	F
14	B8	0.6811	-0.0780	M
15	B9	0.7745	0.0380	M
16	B10	0.6665	0.1709	F
19	B13	0.5529	0.3654	M
20	A7	0.6833	0.3591	F
21	A8	0.3880	0.3196	F
25	B16	0.6563	0.3681	F
27	B18	0.5187	0.4450	F
29	A10	0.5962	0.0763	F
30	A11	0.5892	0.0247	F
32	A13	0.8315	0.1051	F
33	B20	0.5729	0.3528	F
36	A16	0.5211	0.4128	F
37	A17	0.7170	0.2830	F

Code:

'A' refers to participants from group one, who were all attending an advanced university class.

'B' refers to participants from group two, who had all been unsuccessful in the end-of-year advanced level written exam.